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THE
GARDENER'S MAGAZINE,

CONDUCTED

By J. C. LOUDON, F.L.S. H.S. &c.

AUTHOR OF THE ENCYCLOPEDIA OF GARDENING AND OF AGRICULTURE, AND
EDITOR OF THE ENCYCLOPEDIA OF PLANTS.

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PREFACE.

THE Gardener's Magazine will be found to have progressively improved in the course of its publication, and this second volume to be of considerably increased interest, compared with the first. For this additional value conferred on our work, we are chiefly indebted to our numerous contributors ; and, in some degree, to our own increasing experience as Conductor. To our contributors we offer our best thanks, and request a continuance of their favours.

It can hardly be necessary to point to the Table of Contents or the Index, to show the great variety of information contained in this volume ; but we may be allowed to direct especial attention to the list of Garden Libraries (p. x.) which have been formed in consequence of our suggestions on the subject of the Education of Gardeners (pp. 108. 244. and 372.). We have no doubt that, as the employers of gardeners see the advantage of having scientific gardeners in preference to mere empirical practitioners, the number of Garden Libraries will be increased ; and we entreat all who agree with us in opinion on the subject to make their sentiments known, — employers to their gardeners, and gardeners to their masters, — with a view to this end. The subject of Village Libraries, Labourers' Institutions, and Itinerating Libraries, (p. 248. 373. and 376.) also deserves the consideration and support of all those readers who think with us, that the most effectual source of improvement in art and in society, is the general culture of the human mind.

A few enlightened individuals may bring an art to the highest degree of perfection, and may record its principles, and the history of its productions in books ; but unless the minds of those who are to practise this art are so far enlightened as to be able to understand and reason upon those principles, and draw proper and useful inferences from that history, improvement can never become generally beneficial to society, or permanently incorporated with the practice of the country. It is this tendency to enlighten the practical gardener that constitutes the principal value of the *Gardener's Magazine* ; and in this view of its object, and with a prospect of its duration for many years, we look forward to a generation of gardeners of superior intellect, character, and happiness, as well as to new and higher sources of enjoyment for the possessors of gardens.

J. C. L.

London, Bayswater, June, 1827.

LIST OF CONTRIBUTORS TO VOL. II.

	Page		Page
A. B.,	232, 378	Dr. D., of B.,	378
A Brussels Reader,	87	Drummond, Mr. James, A.L.S., C.M.H.S.,	153
A. C.,	375	Ed	Pensance,
A Constant Female Reader,	248	E.	473
A Constant Reader,	486	Fl	Leaming-
A Constant Reader and Subscriber, Manchester,	254	l	154
A Constant Reader, London,	364	F.	257
A Constant Reader, of the neighbourhood of Portman-Square,	238	Fel	480
A Correspondent,	231	Fo	406
A Correspondent, (2)	235	Fr	Loughrea,
A Country Clergyman,	319		356
Adams, Mr. John, Apely Castle, Shropshire,	49	French, Mr. D., Harlow, Essex,	191, 380
A Denbighshire Gardener,	171, 317	F. T. P., of Dublin,	469
A Doncaster Correspondent,	436	Fulton, Mr. George, Northwick Park, Gloucestershire,	247, 373
A Friend at Brussels,	228, 480	G.	121, 251
Agronomer,	165, 304	Gibson, Mr. James, of Hampstead,	50, 145
A Lady,	249	(as I. G.)	379
Alfred,	408	Gledston, Mr. George, Netherwitton, Northumberland,	157
Allen, Mr. Thomas, F. H. S.,	277	Goldie, Mr. John, of the Monkwood Nursery, Ayrshire,	129
An Apprentice,	106	Gordon, Mr. Alexander, Courteen Hall, Northamptonshire,	291
An Experienced Grape Cultivator,	176	Gorris, Mr. Arch., C. M. H. S., Annat Gardens, Perthshire,	8, 374 (as A. G.) 379
A Nobleman's Gardener,	286	G. P. R.,	293
An Old Gardener,	264	Gorton, Mr. Robert, Chemist and Druggist, Wolverhampton,	463
A Nurseryman,	268, 469	G. R.,	122
A Practical Gardener,	377	Green, Mr. Wm., Stepney,	482, 488
A Subscriber and Well-wisher, (M.)	254	Groom, Joseph, Esq., Catton, near Norwich,	254
A Suffolk Amateur,	50, 124	Groom, Mr. Henry, F.H.S. Florist, Walworth,	307. (as H. G.) 303
A. W.,	234	G. S.,	120
A. W., near Droitwich,	49	G. W. B., of Kennington,	47, 474
A. X.,	285, 378	Hawkins, Mr. Thomas, Haw, near Gloucester,	256
Bass, Robert, Esq., of Cheddington Hall, Suffolk,	435	Haythorn, Mr. John, C. M. H. S., Wollaton Hall, near Nottingham,	279
Bauman, Mon. Napoleon, Bollwiller, on the Rhine,	467	Hesketh, Lloyd H. Barford, Esq., Gurych Castle, Abergeley, Denbighshire,	351
B. C., of Gainsborough,	252	Hodson, N. S., Esq., A. L. S., Bury St. Edmunds,	236
Blake, Thomas, Esq., C. M. H. S. L. & E., Landscape Gardener, Paris,	13	Hogg, Mr. Thos., Florist, Paddington,	44
Borrowdale, Mr. John, Warsop Hall, Westmoreland,	35	Hordeum,	379
Braddick, John, Esq., F. H. S., of Boughton Mount, Kent,	38, 129, 236	Hortulanus,	105, 168, 483
Brown, Mr. James, of York,	50	Hurst, Mr. Wm., Hitcham Gardens, Herts,	121
Buck, Mr. Wm., F. H. S., Elford, Staffordshire,	361	I. A. B., Esq., H—, near Bristol,	7
Burnard, J. P., Esq., Eden Grove, Holloway,	313, 358	I. B., of Berlin,	347
Burns, Mr. Wm., Mistle Hall, Essex,	373	I. B., of Edinburgh,	240, 252, 467
Butler, Thomas, Esq., Cornwall Terrace, Holloway,	380	I. B., of Kew,	378
Calvert, Mr., Nurseryman, Rouen,	192	I. G., Covent-Garden Market,	243, 362, 475
Cameron, Mr. David, Bury Hill, Surrey,	297	J. L., of Warsaw,	89, 349
Cameron, Mr. John, Champion Hill, Surrey,	31	Johnson, G. W., Esq., of Great Totham, Essex,	1, 5, 339
Campbell, Mr. Alex., Comte de Vande's Garden, Baywater,	411	Jones and Clark, Messrs., Metallic House Manufactory, Birmingham,	170
Carr, John, Esq., of Holt, Norfolk,	33	J. O. S. P.,	278
Cassidicus,	167	Juvenis, Isle of Jersey,	243
C. F. W., Fosseley,	192, 231, 255, 482	J. W.,	379
Clare, Joseph, Esq., Milan,	460	Kendall, Mr. Alfred, Carleton Curlew, Leicestershire,	58, 140
C., of Norwich,	474, 487	Knight, Mr. Joseph, F. H. S., Exotic Nursery, King's Road, Chelsea,	96
Collyns, W., Esq., Surgeon, Kenton, near Exeter,	162		
Crabstock, Christopher, Esq., Bath,	254		
Dana, Mr. James, Linton Place, Kent,	165		

	Page		Page
La Gasca, Professor Don Mariana, late of the University of Madrid, - - -	393	Robertson, Mr. John, F. H. S., Nursery- man, near Kilkenny, - - -	18
Latham, Mr. John, of Aylesbury, - -	43	Rogers, Mr., Nurseryman, Southampton, -	94
Lauder, Mr. S., Glasshampton Garden, near Worcester, - - -	252, 484	Rollins, Mr., Foxteth Park, near Liver- pool, - - -	373
Lee, Mr. Walter, Nurseryman, Upper Bath Road, Bristol, - - -	463	Rose, Mr. W. B., Foxcote House, Worces- shire, - - -	374
Lowe, Mr. Hugh, Foreman of the Clapton Nursery, - - -	25. (as H. L.) 100	Rose, R. H., Esq., Silver Lake, Susqu- hanna, Pennsylvania, - - -	350
Main, Mr. James, (or as J. M.) late of Chal- font, Buckinghamshire, - - -	135, 413	R. S., - - -	82, 381
Mansfield, Mrs. I. F., Rectory, Milton Bryant, Bedfordshire, - - -	253	R. S. T., - - -	50
Masey, Mr. I. P., jun., Bristol, - -	247, 249	Rusticus in Urbe, - - -	192, 463, 480
Mather, Mr. E. M., Old Basford, near Nottingham - - -	95, 254, 464	Sack, Mr. Alexander Paul, Curator of the National Botanic Gardens, Buenos Ayres, - - -	91, 97
Matthews, Sylvaticus, - - -	484	Saul, Mr. Mathias, of Lancaster, 47.173. (as S.)	122
Mearns, Mr. John, F. H. S., Shobden Court, Herefordshire, - - -	373	Saunders, Mr. Richard, Luscombe, Devon- shire, - - -	29, 93, 379
Mentesh, C. J. Stuart, Esq., of Closeburn, in Dumfriesshire, - - -	399	Sensitivus, of Yorkshire, - - -	36
Mentor, - - -	106, 233, 378. (as M.) 380.	Seymour, Mr. J., Carleton Hall, Yorkshire, -	295
Michie, Mr. James, Breamore House, Hampshire, - - -	390	Sinclair, Mr. Geo., F. L. S., H. S., &c., -	225, 231
Mitchinson, Mr. James, Pendarvis House, Cornwall, - - -	17	Soulange-Bodin, Le Chevalier, F. H. S., &c. &c., Jardin de Plomont, near Paris, -	224
Mitchinson, Mr. William, Courtlands, near Exmouth, - - -	390	Stowe, Wm., Esq., Surgeon, Buckingham, -	275
Mogridge, John H., Esq., of Woodfield, Monmouthshire, - - -	19	Strachan, Mr. James, Clay Hill, Enfield, Middlesex, - - -	166
Morris, Richard, Esq., F. L. S., Landscape Gardener, - - -	286	Strebling, Mr. Isaac, of Mistley, Essex, -	123
Morton, Mr. Andrew, - - -	393	Suffolciensis, - - -	273, 475
M. R., Foxteth Park, Liverpool, - -	379, 459.	Taylor, I. Gardener, East Sheen, Surrey, -	815
M. R. (2) - - -	459	Taylor, Mr. David, Belmont, near Aber- deen, - - -	254
Murray, John, Esq., F. A. S., L. S., H. S., G. S., &c., - - -	225, 347	Thompson, Anthony Todd, M. D., F. L. S., &c., - - -	283, 477
Murray, Mr. Stuart, C. M. H. S., Botanic Garden, Glasgow, - - -	355. as S. M. 409	Thompson, Mr. Joseph, sen., Welbeck Gardens, - - -	245
Nott, Mr. William, Taunton Nursery, -	379, 392	T***, of B——d, - - -	483
N. S., Norwich, - - -	255	T. R., of Liverpool, - - -	350
Oldaker, Mr. Isaac, F. H. S., Spring Grove, Middlesex, - - -	174	V. Sir R. W., - - -	94
Oliver, Mr. J., Combe Gardens, Warwick- shire, - - -	486, 487	W. A. F., Maidenhead, - - -	97
One of the Imperial Gardeners, - -	326	Ward, Mr. John, Sheffield, - - -	380
Parkin, Mr. Thomas, Thoresby Gardens, -	320	W. B., Kingscote Gardens, Gloucester- shire, - - -	482
Prince, Mr., F. M. H. S., &c., Linnean Bo- tanic Garden, Flushing, near New York, -	90, 305	W. G., Dumfries, - - -	99
Reed, Mr. James, Broad Street, Bristol, -	233	W. H., - - -	303
Reid, Mr. Rob., Holme, near Kilmarnock -	16	Wilkins, Mr. George, Walton Nursery, near Liverpool, - - -	246
Rentoul, Mr. Wm., Secretary to the Clap- ton Nursery Library, - - -	245	Wilmot, Mr. John, F. H. S., Isleworth, -	377
Rivers, Mr. T., jun., Nurseryman, Saw- bridgeworth, Herts, - - -	92	Wilson, Mr. John, Welbeck Gardens, -	151
		Wilson, Mr. William, Merley Gardens, Dorsetshire, - - -	271
		W. M., Argyleshire, - - -	254, 316, 468
		W. R. G., West Riding, Yorkshire, -	27., as
		W. R. Y. of Sheffield, - - -	404
		W. T., - - -	33
		Zig-Zag, - - -	253

CONTENTS.

PART I. ORIGINAL COMMUNICATIONS.

On the Employment of Salt as a Manure in Gardening. By Mr. G. W. Johnson, of Great Totham, Essex - - -	Page 1	Ideas for a new Plan of breaking Tulips. By Mr. Thomas Hogg, Florist, Paddington -	44
Description of an improved Garden Wall, proposed to be built at H——, near Bristol. By J. A. B. Esq. - - -	7	On Propagating the Balsam by Cuttings, By G. W. B. - - -	47
Description of a Dendrometer invented by Mr. Arch. Gorrie, C.M.H.S. Gardener at Annat Gardens, Perthshire. By Mr. Gorrie -	8	On the Mode of growing early Potatoes in the North of Lancashire. By Mr. Mathias Saul, of Lancaster - - -	48
Scheme of a Succession of Crops for One Hundred Acres of Arable Land in Picardy. By Thomas Blaikie, Esq. C.M.H.S., &c. Landscape Gardener, Paris - - -	13	Results of an Experiment to destroy the A'phis lanigera, or American Blight on Fruit Trees. By Mr. John Adams, Gardener at Apley Castle, Shropshire - - -	49
Hints for cultivating <i>Fuchsia gracilis</i> , <i>Erythrina crista galli</i> , and <i>Salvia splendens</i> . By Mr. Robert Reid, Gardener to Mrs. Farley, at Holm, near Kilmarnock; with some Remarks on flowering Climbing Plants in Pots -	16	On the Destruction of the A'phis lanigera, or American Blight on Apple Trees. By A. W. - - -	48
On the Importance of Liquid Manure in Horticulture, and the peculiar Advantages of Soot as an Ingredient for that Purpose. By Mr. John Robertson, F.H.S. Nurserymen, Kilkenny -	18	On the Culture of North American Plants, including Ferns; founded on Observations made during a Journey through Canada, and some of the Northern States of the Union, in the Years 1817, 1818, and 1819. By Mr. John Goldie, of the Monkwood Grove Nursery, Ayrshire - - -	129
An Account of a successful Experiment made by John H. Moggridge, Esq. in Monmouthshire, with a View to ameliorate the Condition of Country Labourers. By John H. Moggridge, Esq. of Woodfield, near Newport -	19	Observations on Chinese Scenery, Plants, and Gardening, made on a Visit to the City of Canton and its Environs, in the Years 1793 and 1794; being an Extract from the Journal of Mr. James Main, sent thither by the late Gilbert Slater, Esq. of Layton, Essex, to collect the Double Camellias, &c. Communicated by Mr. Main - - -	135
Description of a Propagation Shelf in the Clapton Nursery, with the Mode of using it, &c. By Mr. Hugh Lowe, Foreman and Propagator there - - -	25	On the Importance of adopting and pursuing a proper Plan for pruning and training Fruit Trees; with a Description of an approved Method of training the Peach and Nectarine. By Mr. Alfred Kendall, Gardener to the Reverend H. Palmer, at Carlton Curliou Hall -	140
On the Remuneration of Gardeners, including some Remarks on their Education and Emigration. By W.R.G. West Riding, Yorkshire -	27	On the Culture of <i>Brugmansia arborea</i> . By Mr. James Gibson, Gardener to T. N. Longman, Esq. F.H.S. Hampstead - - -	145
Some Account of a remarkable Lemon Tree in the Garden of C. Hoare, Esq. F.R.S. H.S. &c. Luscombe, Devonshire. By Mr. Richard Saunders, Gardener there - - -	29	On the present State of Gardening in Ireland, with Hints for its future Improvement. By Mr. James Fraser. (Continued from Vol. I. p. 265.) - - -	146
Remarks on the Establishment of a Horticultural Society in the Highlands of Scotland. By Mr. John Cameron, Gardener, Champion Hill, Camberwell - - -	31	Description of a new Trap for catching Winged Insects in Gardens. By Mr. John Wilson, Journeyman in Welbeck-Gardens, Nottinghamshire - - -	151
On an Improvement in the Propagation of the Double Camellia. By Mr. William Pike, Gardener to W. J. Brereton, Esq. of Brinton, Norfolk. Communicated by John Carr, Esq. of Holt - - -	33	On the Cultivation and Improvement of <i>Cinéraria cruenta</i> . By Mr. James Drummond, A.L.S. C.M.H.S. Curator of the Botanic Garden at Cork - - -	153
On the Importance of ascertaining the simultaneous flowering of Trees and Shrubs. By W. T. - - -	36	On the Plan of closing the Smoke Flues of Houses and other Buildings that are heated only in the Day-time, for the Purpose of preserving a Warm Temperature during the Night, &c. By Mr. William Flavel, Ironmonger, Leamington Spa - - -	154
On the Propagation and early Fruitfulness of the Fig-tree in Pots. By Mr. John Borrowdale, Gardener to Mrs. Dent, Wareop Hall, Westmoreland - - -	35	An improved Method of growing Celery. By Mr. George Gledston, Gardener to Raleigh Trevelyan, Esq. at Netherwitton, Northumberland - - -	157
On the Treatment which Gardeners out of Place generally receive from the Nurserymen, and the Consequences resulting therefrom. By Sensitivus, of Yorkshire - -	36	List of select New Pears introduced by John Braddick, Esq. F.H.S., with their Time of ripening, and other Particulars. Communicated by Mr. Braddick - - -	159
A simple and effectual Method of destroying the Red Spider. By Mr. Alfred Kendall, Gardener to the Reverend H. Palmer, Carlton Curliou, Leicestershire - - -	38	On Salt as a Manure, and on the Economical and Medical Uses to which various common Wild Plants are applied by the Cottagers in Devonshire. By W. Collyns, Esq. Surgeon -	160
Some Account of the Henri-Quatre, Urbaniste, and other new Pears, introduced and fruited by John Braddick, Esq. F.H.S. Communicated by Mr. Braddick - - -	39		
Description of a Mode of training and fastening the Shoots of Vines on the Roofs of Cottages. By Mr. John Latham, of Aylsbury - -	43		

Remarks and cautionary Hints respecting Experiments with Salt as a Manure. By Agrostos - 163

An effectual Mode of destroying the *Aphis* lentiginosa, or American Blight, on Fruit Trees. By Mr. James Dunn, Gardener to the Earl of Cornwallis, at Linton Place, near Maidstone - 165

On the Destruction of the Mealy Bug, *Coccus lentiginosa*, on Vines and Plants in Pots. By Mr. James Strachan, Gardener to Edward Harman, Esq. F.H.S. Clayhill, Knafeld, Middlesex - 166

On budding Peaches on Almond Stocks, with reference to Mr. Anderson's Paper on that Subject. By Cassidion - 167

Observations on Mr. Anderson's Experiments with Peaches and Apricots budded on Almond Stocks. By Hortulanus - 168

Description of the Iron-work and Glazing of the Conservatory at the Grange, the Seat of Alexander Baring, Esq. M.P., F.H.S. Hampshire, erected by Messrs. Jones and Clark, Birmingham. Communicated by Messrs. Jones and Clark - 170

On the Mode of cultivating early Potatoes in Denbighshire. By a Denbighshire Gardener - 171

On the Culture of early Potatoes in Cornwall. By Mr. James Mitchinson, Gardener to E. W. Pendarves, Esq. M.P. F.H.S. - 174

Description of the Black Raisin Grape; with some Account of the West's St Peter and Pousah Varieties, and of the Culture and Management of Winter Grapes at Spring Grove. By Mr. Isaac Oldaker, F.H.S. Gardener to Lady Banks - 176

Observations on the Management of the four Sorts of French Pears, especially those which are usually termed *Shy Bearers*; in the first Place, stating Objections to the present Modes of Training; and, in the second Place, pointing out a Method by which the Wall may be filled; much sooner than by any Way in use at present, and likewise by which much more Fruit may be obtained. By F. N. R. - 187

On saving Garden Seeds by Gentlemen's Gardeners. By an Old Gardener - 194

On the Treatment which Apprentices and Journeyman Gardeners receive from Master Gardeners. By a Nobleman's Gardener - 195

On the Treatment of Gardeners out of Place by Nurserymen; in Reply to the Observations of a Man - 196

Of Cottagers. By a Man - 197

Plants. By a Man - 198

Of each Culture usually from Seed, or to F. Canning - 199

Of the Stems of Stoves, Esq. Bur - 200

Of the Acorn - 201

Of the Acorn - 202

Of the Acorn - 203

Of the Acorn - 204

Of the Acorn - 205

Of the Acorn - 206

Of the Acorn - 207

Of the Acorn - 208

Of the Acorn - 209

Of the Acorn - 210

Of the Acorn - 211

Of the Acorn - 212

Of the Acorn - 213

Of the Acorn - 214

Of the Acorn - 215

Of the Acorn - 216

Of the Acorn - 217

Of the Acorn - 218

Of the Acorn - 219

Of the Acorn - 220

Of the Acorn - 221

Of the Acorn - 222

Of the Acorn - 223

Of the Acorn - 224

Of the Acorn - 225

Of the Acorn - 226

Of the Acorn - 227

Of the Acorn - 228

Of the Acorn - 229

Of the Acorn - 230

Of the Acorn - 231

Of the Acorn - 232

Of the Acorn - 233

Of the Acorn - 234

Of the Acorn - 235

Of the Acorn - 236

Of the Acorn - 237

Of the Acorn - 238

Of the Acorn - 239

Of the Acorn - 240

Of the Acorn - 241

Of the Acorn - 242

Of the Acorn - 243

Of the Acorn - 244

Of the Acorn - 245

Of the Acorn - 246

Of the Acorn - 247

Of the Acorn - 248

Of the Acorn - 249

Of the Acorn - 250

Of the Acorn - 251

Of the Acorn - 252

Of the Acorn - 253

Of the Acorn - 254

Of the Acorn - 255

Of the Acorn - 256

Of the Acorn - 257

Of the Acorn - 258

Of the Acorn - 259

Of the Acorn - 260

Of the Acorn - 261

Of the Acorn - 262

Of the Acorn - 263

Of the Acorn - 264

Of the Acorn - 265

Of the Acorn - 266

Of the Acorn - 267

Of the Acorn - 268

Of the Acorn - 269

Of the Acorn - 270

Of the Acorn - 271

Of the Acorn - 272

Of the Acorn - 273

Of the Acorn - 274

Of the Acorn - 275

Of the Acorn - 276

Of the Acorn - 277

Of the Acorn - 278

Of the Acorn - 279

Of the Acorn - 280

Of the Acorn - 281

Of the Acorn - 282

Of the Acorn - 283

Of the Acorn - 284

Of the Acorn - 285

Of the Acorn - 286

Of the Acorn - 287

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Of the Acorn - 289

Of the Acorn - 290

Of the Acorn - 291

Of the Acorn - 292

Of the Acorn - 293

Of the Acorn - 294

Of the Acorn - 295

Of the Acorn - 296

Of the Acorn - 297

Of the Acorn - 298

Of the Acorn - 299

Of the Acorn - 300

Of the Acorn - 301

Of the Acorn - 302

Of the Acorn - 303

Of the Acorn - 304

Of the Acorn - 305

Of the Acorn - 306

Of the Acorn - 307

Of the Acorn - 308

Of the Acorn - 309

Of the Acorn - 310

Of the Acorn - 311

Of the Acorn - 312

Of the Acorn - 313

Of the Acorn - 314

Of the Acorn - 315

Of the Acorn - 316

Of the Acorn - 317

Of the Acorn - 318

Of the Acorn - 319

Of the Acorn - 320

Of the Acorn - 321

Of the Acorn - 322

Of the Acorn - 323

Of the Acorn - 324

Of the Acorn - 325

Of the Acorn - 326

Of the Acorn - 327

Of the Acorn - 328

Of the Acorn - 329

Of the Acorn - 330

Of the Acorn - 331

Of the Acorn - 332

Of the Acorn - 333

Of the Acorn - 334

Of the Acorn - 335

Of the Acorn - 336

Of the Acorn - 337

Of the Acorn - 338

Of the Acorn - 339

Of the Acorn - 340

Of the Acorn - 341

Of the Acorn - 342

Of the Acorn - 343

Of the Acorn - 344

Of the Acorn - 345

Of the Acorn - 346

Of the Acorn - 347

Of the Acorn - 348

Of the Acorn - 349

Of the Acorn - 350

Of the Acorn - 351

Of the Acorn - 352

Of the Acorn - 353

Of the Acorn - 354

Of the Acorn - 355

Of the Acorn - 356

Of the Acorn - 357

Of the Acorn - 358

Of the Acorn - 359

Of the Acorn - 360

Of the Acorn - 361

Of the Acorn - 362

Of the Acorn - 363

Of the Acorn - 364

Of the Acorn - 365

Of the Acorn - 366

Of the Acorn - 367

Of the Acorn - 368

Of the Acorn - 369

Of the Acorn - 370

Of the Acorn - 371

Of the Acorn - 372

Of the Acorn - 373

Of the Acorn - 374

Of the Acorn - 375

Of the Acorn - 376

Of the Acorn - 377

Of the Acorn - 378

Of the Acorn - 379

Of the Acorn - 380

Of the Acorn - 381

Of the Acorn - 382

Of the Acorn - 383

Of the Acorn - 384

Of the Acorn - 385

Of the Acorn - 386

Of the Acorn - 387

Of the Acorn - 388

Of the Acorn - 389

Of the Acorn - 390

Of the Acorn - 391

Of the Acorn - 392

Of the Acorn - 393

Of the Acorn - 394

Of the Acorn - 395

Of the Acorn - 396

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Of the Acorn - 398

Of the Acorn - 399

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Of the Acorn - 430

Of the Acorn - 431

Of the Acorn - 432

Of the Acorn - 433

Of the Acorn - 434

Of the Acorn - 435

Of the Acorn - 436

Of the Acorn - 437

Of the Acorn - 438

Of the Acorn - 439

Of the Acorn - 440

Of the Acorn - 441

Of the Acorn - 442

On the Culture of the Garden Hyacinth, *Hyacinthus orientalis*. By Mr. Alexander Campbell, Gardener to the Comte de Vandes, at Bayswater - 411

Note on Winter pruning the Vine. By Mr. Main - 413

PART II. REVIEWS.

Essay on the Beneficial Direction of Rural Expenditure. By Robert Slaney, Esq. 51. 177. 321.

2. Colonies at Home; or, the Means for rendering the industrious Labourer independent of Parish Relief; and for providing for the Poor Population of Ireland by the Cultivation of the Soil. London. Pamph. 8vo. pp. 27. 2 Plates. - 46.

3. Thoughts on the Expediency of a General Provident Institution for the Benefit of the Working Classes; with Tables and Examples of Contributions and Allowances. By James Cleghorn, Accountant in Edinburgh. Edin. Pamph. 8vo. pp. 43. - 46.

Le Bon Jardinier, pour l'Année 1826, contenant les Principes généraux de Culture; l'indication, Mois par Mois, des Travaux à faire dans les Jardins, &c. By A. Poiteau, principal Editor, &c. - 58

1. Hortus Gramineus Woburnensis; or an Account of the Results of Experiments on the Produce and Nutritive Qualities of different Grasses and other Plants, used as the Food of the more valuable Domestic

Animals, &c. &c. By George Sinclair, F.L.S. F.H.S. &c. - 67

2. An Essay on the Weeds of Agriculture; with their common and Botanical Names, &c. &c. Also Practical Remarks on their Destruction, &c. The Posthumous Work of B. Holdich, Esq. late Editor of the Farmer's Journal. Edited by George Sinclair, F.L.S. F.H.S. &c. Nurseryman - 67

Transactions of the Horticultural Society of London, Vol. VI. Part III—VI. 184. 333. 414

Report of the Garden Committee of the Horticultural Society of London on the Formation and Progress of the Garden, March 31. 1827. 4to. pp. 16. - 441

Verhandlungen des Vereins, &c. Transactions of the Society for the Advancement of Gardening in the Prussian States. Part I. (Continued from Vol. I. p. 312.) - 444

Catalogue of Works on Gardening, Agriculture, Botany, Rural Architecture, &c. published since September last, with some Account of those considered the most interesting 72. 204. 333. 447

Notices of New Works in the Press, &c. 82. 230
Literary Notice - 345

PART III. MISCELLANEOUS INTELLIGENCE.

Foreign Notices:

France, - - - 83. 222. 346. 459
Germany, - - - 84. 224. 347. 459
Switzerland, - - - 225. 347
Italy, - - - 86. 225. 459
Holland and the Netherlands, 87. 226. 349. 460

Russia and Poland, - - - 88. 369
Spain and Portugal, - - - 86
North America, - - - 90. 227. 350
South America, - - - 91
Asia, - - - 461
Africa, - - - 462
Australasia, - - - 229

Domestic Notices:

England, - - - 91. 229. 351. 462
Scotland, - - - 97. 236. 352. 464
Ireland, - - - 102. 240. 355

Horticultural Society and Garden, 103. 241. 356. 469

Provincial Horticultural Societies and

Flower Shows, - - - 360. 470
Linnean Society, - - - 470
Covent-Garden Market, - 106. 244. 362. 475
Calls at Suburban Gardens, 107. 362
Catalogue of Books for a Garden Library, 108
Garden Libraries - - - 244. 372
Architecture, - - - 475
Domestic Economy - - - 477
Cottage Economy - - - 478
Garden Antiquities - - - 481
Feltoniana - - - 480
Retrospective Criticism - - - 485
Hints for Improvements, - - - 480
Answers to Queries, and Queries, 120. 250. 377. 482

Biography, - - - 253. 381. 487
Obituary, - - - 488
Notices to Readers and Correspondents 488

PART IV. ADVERTISEMENTS CONNECTED WITH GARDENING AND RURAL AFFAIRS.

Agricultural Implements and Machinery 125
Garden Thermometers, and other Mathematical Instruments for Gardeners - 126
Curvilinear Metallic Hothouses - 382
Stained Glass for Conservatories - 356
Artificial Manures - 126
Anatomised Plants and Models of Estates - 356
Pears, fine new Sorts - 125
Cucumbers - - - 125. 356
Places wanted - - - 126. 356
Florist's Flowers, - - - 126. 382
Tulips - - - 356
Horticulturist's Cottage - - - 382, 383
Ectipa Vegetabilium - - - 382

Botanical Magazine - - - 382
Books by Messrs. Longman, Rees, and Co. 126. 128. 383, 384

Mr. Ridgway, - - - 127. 384.
Messrs. Narnaville and Fell - 127
Messrs. Sherwood and Co. - 127
Messrs. J. and C. Rivington, 127, 128
Messrs. Baldwin, Cradock, and Joy, - - - 128. 384
Messrs. Boosey and Sons, - 128
Messrs. Stewart, Wheatley, and Adlard, - - - 382
Messrs. G. B. Whittaker - 384
Messrs. Harding, Lepard, and Co. 384

THE GARDENER'S MAGAZINE,

JANUARY, 1827.

PART I.

ORIGINAL CORRESPONDENCE.

ART. I. *On the Employment of Salt as a Manure in Gardening.*
By Mr. G. W. JOHNSON, of Great Totham, Essex.

Sir,

AS horticulture requires that its professors should be men of science, and consequently of expanded minds; as it is patronised and practised by the fairest, the wealthiest, and the most talented inhabitants of every well civilised country, it may be justly expected to take the lead of its sister art agriculture, in all that relates to the cultivation of the soil, since the practitioners of the latter are in general much behind those of the former in every thing but mere empirical knowledge. In most cases this expectation is fully justified. The examination of the value of salt as a manure is an exception, and rather a remarkable one. Its employment, recommended on strictly scientific principles is slowly overcoming the prejudices of the agriculturist, whilst nothing like a general application of it to the crops of the garden has been known to have been attempted by any, even of its most enlightened advocates; it certainly is not commonly esteemed as one of the gardener's sources of fertility. In calling your attention to the subject, I shall merely throw together some ideas and facts which have lately occurred, referring you, sir, and those who wish to enter into the examination of the subject more in detail, to my brother's essay on its employment in agriculture, &c. (*Encyclopaedia of Agriculture*, p. 1170, A.D. 1820.*) That

* An Essay on the uses of Salt for Agricultural Purposes, with Instructions for its Employment as a Manure, and in the Feeding of Cattle, &c. By Cuthbert William Johnson, London. 8vo. 1820.

the employment of salt as a manure is not a modern recommendation is proved unequivocally by the 34th and 35th verses of the 14th chapter of St. Luke's gospel: and of perhaps all the writers upon rural subjects through succeeding ages, not one has escaped to us but mentions salt as a fertilizer of the ground, or as useful in some form or other to our crops. Lord Bacon recommends it generally for the garden. Sir Hugh Platt eulogises it for grass plats, and it is certain no application tends more to keep their verdure permanent, or to divest them of worms. Moses Cook, gardener to the Earl of Essex, in 1679, says that salt to seed "is as sack to a young child, a little doth a great deal of good." Switzer recommends it for grass and for gravel walks; "I would have those," says Cook before mentioned, "that lay salt on their gravel walks to kill their weeds, observe if in a few years they do not produce more weeds than some other that had not salt laid on them at all." Those who apply salt for this purpose, as recommended also lately by Mr. Sinclair, author of the invaluable *Hortus Gramineus Woburnensis*; must repeat the application at least every other year; if the salt is not in excess it promotes the growth of the weeds. Salt is a destroyer of moss on fruit trees, as long as it is present in abundance, but if not applied every other year the moss grows more luxuriant than ever. Hitt recommends it for fruit trees. About Alresford in Hants it is generally applied to onions. Mr. Knight recommends its use to late crops of peas. Mr. G. Sinclair recommends it for carrots. W. Horne, Esq. and others eulogise its employment upon turnip lands. The Rev. E. Cartwright, and others, have experienced its benefits upon potatoes; and were I to name every individual who bears testimony to the same effect upon the above mentioned and other crops, and to detail only the results of their experiments, I should trespass by far too much upon your pages. In the absence of all experiment, there are some plants under the gardener's immediate care, which, from a knowledge of their habitats, we might feel convinced would be benefited by the application of salt. The beet is a native of the sea-shore, as is the sea kale and samphire: now all these plants have been found benefited by the application of salt when growing in our garden quarters. Lord Bacon especially recommends it to beet; and in a communication I have just received from Sir T. D. Acland, Bart., of Killerton Park near Exeter, his farmer advocates its use for mangel wurzel, which is a member of the same botanical family. The cocoa nut tree is said only to flourish in the vicinity of the sea,

which may afford a hint to the protectors of this and others of the palms in our hot-houses to assist them by the application of salt. The fact which has often been noticed, and satisfactorily explained, that brocoli and other members of the brassica tribe growing on soils manured with salt, endure the rigour of winters which destroy others growing upon unsalted ground, may also serve as a memento to the curator of every hot-house to try its protecting powers upon some of the tenderest of its tenants.

The benefit of salt when applied to flowers is unequivocal; even those separated from their parent stems and placed in vases are preserved longer in vigour by having a few grains of this saline stimulant dissolved in the water. The late T. Andrews, Esq. of Coggeshall informed me, that tulip seedlings sooner acquired their perfect colour if the beds were manured with salt, than those in similar beds untreated with this manure. The benefit arising to bulbous-rooted flowers, &c. from its use is farther confirmed by the following communication lately received by my brother from Mr. Hogg, florist, Paddington: — “From the few experiments that I have tried with salt as a manure, I am fully prepared to bear testimony to its usefulness. I am satisfied that no hyacinths will grow well at a distance from the sea without it. I am also of opinion that the numerous bulbous tribe of Amaryllises, especially those from the Cape of Good Hope, Ixias, Alliums, &c. &c. should have either salt or sea sand in the mould used for them. I invariably use salt as an ingredient in my compost for carnations, and I believe I may say, without boasting, that few excel me in blooming that flower.”

In concluding these irregular observations, the chief object of which is to call the attention of gardeners more generally to the subject, I shall only pause a minute to deprecate ill-judged experiments and hasty conclusions. Let the same patient resolution in the pursuit and desire for the illustration of truth be found as is exhibited in the table of experiments by Mr. G. Sinclair, given in my brother's essay; let them not conclude, with a friend of mine, that salt is destructive to plants, at all events, to potatoes, because not a single set vegetated in those rows where he *filled* the holes made by the dibble with salt after putting in the potatoe! but let them at least be guided by the directions of those who have had some experience in the research; let them investigate without prejudice, and they may perhaps agree in repeating the enthusiastic declaration of Mr. Cline, of medical celebrity, “salt is of as much benefit to land as to the human constitution.”

If you consider the above would at all tend to call the attention of gardeners to that which I am convinced is one of their best friends, if inserted in your Magazine, (the best demonstration of my approval of which is my constant perusal of it as it appears,) I shall be very happy at a future period to communicate such facts, &c. as may occur.

I am, Sir, &c.

G. W. JOHNSON.

Great Totham, Essex,

Sept. 15. 1826.

The following is a subsequent communication from Mr. Johnson on the same subject. We are sorry that he should imagine, that because we consider salt as a stimulus, we are therefore unfavourable to its use in agriculture or gardening. If this conclusion were to be drawn, we should be also unfavourable to the use of lime, which, in common with agricultural chemists, we consider more as a stimulant, and decomposer of food already in the soil than as food itself. We are not, however, on that account, the less an advocate for the employment both of salt and lime. *See Encyc. of Agr. § 2213. et seq. — Cond.*

Sir,

I REGRET most sincerely to find, by the observation contained in p. 402. of the last number of the *Gardener's Magazine*, that you are far from being favourably inclined to the employment of salt as a fertilizing medium. I am almost inclined to agree with you in considering salt as beneficial to plants by stimulating them, and other proximate effects, rather than as being their actual food, but there are some considerations and facts, which being opposed to it, I am unable satisfactorily to explain away. Water, wherever it is obtained, is always found to contain common salt, even rain and distilled water are not perfectly free from it; such waters as are derived from near the surface of the earth always contain the most. Now, as such water is one of the chief sources of nourishment to plants, are we not justified in concluding that the salt is taken up with the water?—At all events, many upland plants, as the *Gratiola officinalis*, *Mesembryanthemum crystallinum*, &c. (Thomson's Chem. ed. 6th. v. 4. p. 244, 245.), contain it in a very notable proportion. Mr. G. Sinclair states from experiment, that wheat grown upon a soil salted, indicated, on analysis, nearly double the quantity of alkaline muriate than similar grain grown upon a similar

soil that had had no salt applied. We must not either imagine, that plants absorb the salt of necessity, it being presented to them in solution, for Saussure has demonstrated by experiment that plants have the power of selecting salts from their solutions; acetate of lime and common salt being dissolved in the same water, some plants of *Polygonum Persicaria*, &c., absorbed a considerable portion of the latter salt, but rejected the former entirely. (Saussure's *Recherches*, p. 247—61.) I never tested with nitrate of silver the infusion of any plant that did not indicate the presence of an alkaline muriate. Such being the fact, I am not aware of any reason that should forbid us considering common salt as an essential constituent of some plants; if we allow that it is such of the blood and other parts of animals, and if it is an essential constituent, they must derive it from their food. Sir H. Davy, in his *Agricultural Chemistry*, (2d ed. p. 337,) says, "when common salt acts as a manure, it is probably by entering into the composition of the plant in the same manner as gypsum, phosphate of lime, &c." We could hardly attribute the benefits arising from these to plants to their stimulating qualities.

I offer these observations, Sir, not in the belief that they are new to you, but in the hope that they may induce you to a more full examination of the evidence for and against the employment of salt as a manure, an examination which I am sure could not fail of securing you to it as a friend, which I am the more anxious you should, being an advocate for it myself, as you stand in your editorial capacity as one of the beacons of horticulture. I am, Sir, yours, &c.,

G. W. JOHNSON.

2 We shall not argue with Mr. Johnson or Mr. Collyns, (*Gard. Mag.* p. 401.) as to whether salt be a stimulus or a manure, but rather strongly recommend the able communication of the former to the practical reader, and await the light which may be thrown on the subject in a future number by the latter correspondent. Used in small quantities, we are very much inclined to think with Mr. Cline, that salt may be found "of as much benefit to land as to the human constitution." It does not follow, that because it is used in large quantities to destroy, it may not be used in small quantities to promote, vegetation. We lately saw an approach road in Staffordshire, thickly coated over with salt, the article being in that part of the country abundant and cheap; we hope, therefore, that some of our readers in that quarter will try some experiments, and communicate the result. Suppose we

request to do this each of the gardeners in that part of the country, and in Yorkshire and Nottinghamshire, that we called on in October last. We here call upon them to lend their aid in discovering the value of salt in gardening, and shall confide in their doing so; and as they are all readers of this Magazine, we shall give them no farther notice, but only request that they will severally communicate the result of their trials on or before the 1st of January 1828, so that they may be published on the 1st of April following. To prevent mistakes or excuses, the following are the names of the proposed experimenters in the order in which we called at their gardens:—

Mr. Thompson, } Wentworth House.
 Mr. Cooper, }
 Mr. M'Ewen, Bretton Hall.
 Mr. Harrison, Wortley Hall, and such of his sons as have an opportunity.
 Mr. Acon, Worksop Manor.
 Mr. Thompson, Welbeck.
 Mr. Wykes, Clumber Park.
 Mr. Bennet, Thoresby Park.
 The Manager who may be appointed to the Duke of Portland's farms in Clipstone Park. (When we called there on the 15th of October, the late manager had been buried that morning.)
 Mr. Johnstone, Newstead Abbey.
 Mr. Haythorn, } Wollaton Hall.
 Mr. Foy, }
 Mr. Chatfield, } Derby.
 Mr. ——— }
 Mr. Lunn, Alton Abbey.
 Mr. Buchan, Blythfield.
 Mr. Taylor, Ingestrie.
 Mr. M'Murtrie, Shugborough.

We should wish all the above, and as many other gardeners and farmers in every part of the country as are friends to their own art, to try common salt as a top dressing to the common or annual kitchen and field crops; to grass and to asparagus, sea-kale, rhubarb, and other perennial crops, and on the soil about trees and shrubs. Its effects on perennials and ornamental plants will probably not be ascertained properly before two or three years, and therefore we shall not expect the result of experiments as to them till January 1829 or 1830. In order to measure the quantity of salt used, we would recommend every person intending to try an experiment, to cut a hole in a turnip or a potatoe, or in wood, which will hold exactly a cubic inch, and we think an inch of common salt to a square yard for broad cast crops, or to two lineal yards of those sown in rows, would be a very good proportion for experiment. This would also enable gardeners to try a number of

experiments at very little expence. We wish every one, however, to take his own way, and whatever they do not to forget to send the result to this Magazine. — *Cond.*

ART. II. *Description of an improved Garden Wall proposed to be built at H——, near Bristol.* By J. A. B. Esq.

Sir,

I SEND you the following description of a garden wall which I am about to erect. It will consist of two four-inch brick walls, as in the accompanying section (*fig. 1. a, b*), worked in good mortar, twelve feet high, five feet apart at the bottom, and gradually approaching to the top, where it may terminate in a coping brick. I have consulted a bricklayer, who will build for little more than a nine inch wall, the quantity bricks being about the same considering that there will be no occasion for piers for strength. The ends are closed by two low doors, and there are two apertures at the top, the whole length being about thirty yards. The only objection to the plan is the little additional space the wall takes up, the base being five feet wide but I conceive I shall have an advantage much exceeding the loss; first, in the additional exposure to the sun gained by the slanting direction of the surface of the wall. next in the thickness, by which the wall will be kept dry; and particularly in the means which the hollow space will afford me, at a comparatively small expence and trouble, of drying the wall in autumn and spring, by occasionally lighting a little litter or gorse at each end, and closing up the doors, and



opening the top apertures, and when the fire is nearly out shutting in the warm air. The space between the two walls will be useful for holding plants in pots, which are in a dormant state, and which it may be requisite to preserve from the frost or wet, as strawberries. Dung may also be fermented there for forcing sea-kale, rhubarb, &c. I do not intend the wall to have a direct south aspect, but to have it turned half round to the east, so that both sides will be available for fruit trees; in this case much more so than if the wall had been perpendicular. The walls are built on arches, so that the space between will be occupied by the roots of the fruit trees. Adverting to Mr. Knight's observation in a late part of the *Horticultural Transactions* (vol. vi. part ii. reviewed in *Gard. Mag.* vol. i. p. 424.), I mean to contrive to plant some of the half standards within the interior space, bringing out the stems at six feet high (*b*), in order to afford them protection from the late frosts when the sap is rising, and which he so well shows to be prejudicial to the fecundity of fruit trees.

I am, Sir, &c.

Bristol, March 21. 1826.

J. A. B.

As a south and north wall, to be covered with canvass (*c*) when the trees are in blossom, this plan may succeed; but we think it can hardly be worth while to plant the trees (*b*) inside. If their stems are to be protected, a small recess in the brickwork (*fig. 2.*) would answer as well, and no danger of injury from the fermenting dung (*d*) would be incurred. But what becomes of the stems of trees against common walls? The best thing for such a wall would be a covering of glass, at a foot or eighteen inches' distance (*c*), and opening and removable at pleasure. — *Cond.*

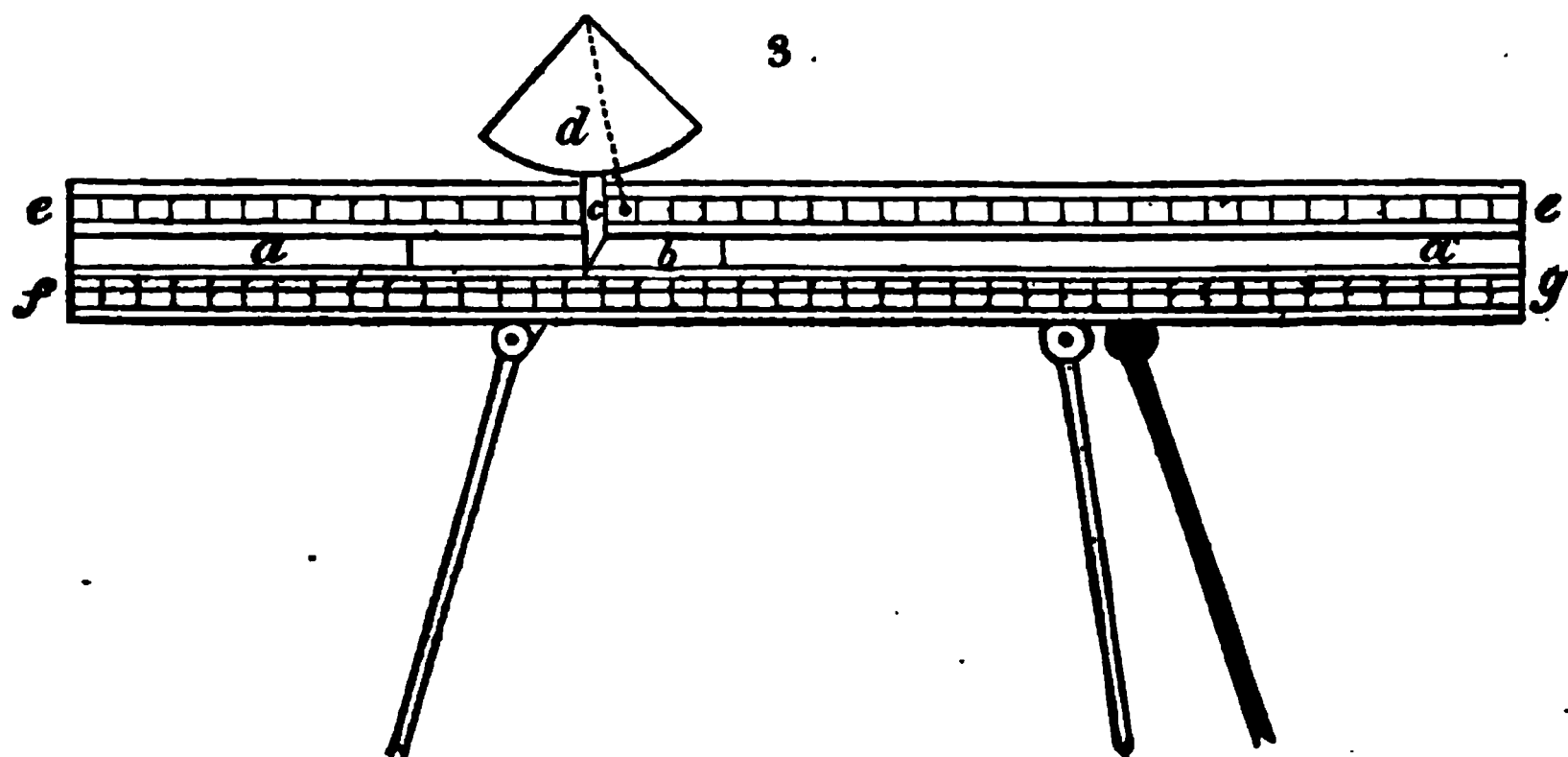


ART. III. *Description of a Dendrometer invented by Mr. Arch. Gorrie, C.M.H.S. Gardener at Annat Gardens, Perthshire.* By Mr. GORRIE.

A LOFTY tree is a noble object of contemplation, clothed with an air of grandeur, magnitude, and antiquity, which leads the mind back to the "days of other years," in all the rich luxuriance of fancy. The pleasing emotion, however, receives sometimes a temporary check, when a consciousness of uncer-

tainty either as to magnitude or elevation glides across the mind; when the question occurs, How tall may that tree be? or what are its solid contents? To the mere sentimentalist this consideration will appear of trifling import; to him it is sufficient to contemplate nature in her most striking features, without descending to minute detail: but those who combine the *dulce* with the *utile* will receive additional pleasure, by acquiring a knowledge of these particulars connected with the object of their admiration.

At a period when landscape gardening is becoming a fashionable science, a dendrometer, that will give, with mathematical accuracy, and with as little trouble as may be, the elevation and contents of a growing tree, will, I should suppose, be an agreeable accompaniment to those who delight in woodland scenery, and useful to such as may have an interest in ascertaining the value of growing timber. I am aware that several dendrometers have already been constructed: two are figured and described in the Encyclopædia of Gardening; of their merits or demerits I will not at present stop to take notice. The circumstance of my writing this communication is a proof that I, at least, think the one I am about to describe superior to either. Aware, however, of the fond partiality with which every inventor is apt to view the child of his own fancy, I shall leave it with the readers of the Gardener's Magazine to attach to it that degree of merit to which they may think it entitled, when they have glanced over the following description and accompanying tables and figures.



The instrument, as will appear from the prefixed sketch (*fig. 3.*), is composed of a table, a slider, and quadrant, made

of mahogany or other hard wood. The table is three and a half feet long, by four inches wide. On the off side (*e e*), is an index marked in inches and eighths of an inch. Along the centre runs a dove-tailed groove (*a a*), inch and quarter wide, and quarter inch deep: this groove is fitted to hold the slide (*b*), in the centre of which, and at right angles across the table, is mortised the support (*fig. 4. c*), on which the quadrant (*d*) is fixed with a thumb-screw. The near side of the table (*fig. 3. f g*) has the marks opposite the inches drawn across; on this space may be figured the amount of circumference opposite to each inch of diameter, and also the side of the square of the tree measured, making the ordinary allowance for bark. The following sketch (*fig. 5.*), representing three inches in



a

a

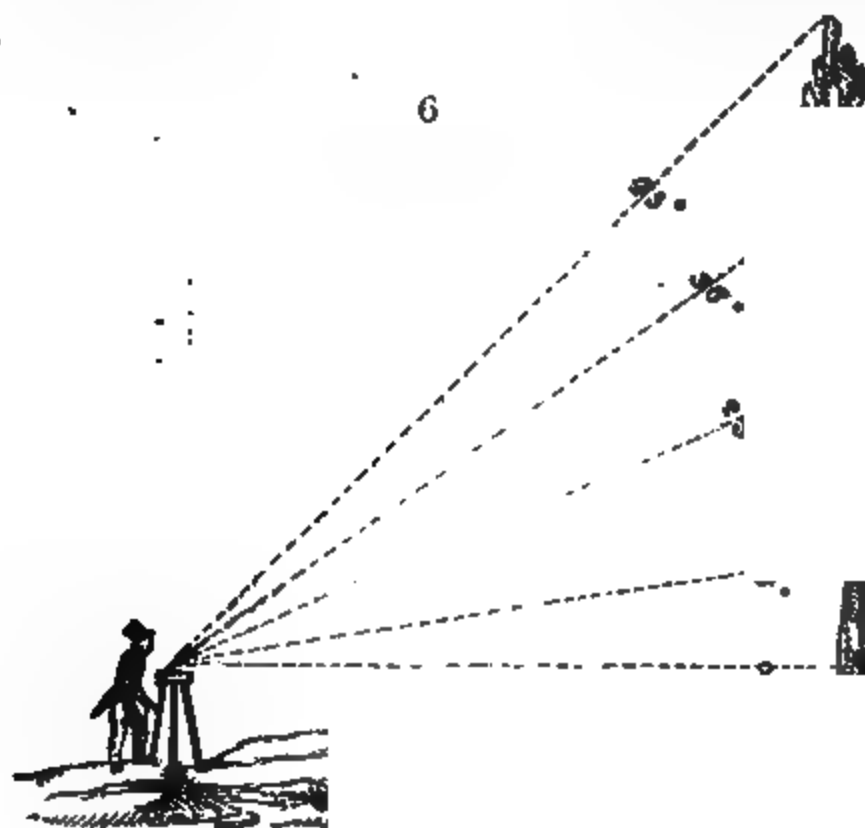
length of the surface of the table, full size, will show its form and the subjoined columns will supply the figures for the re-

Degrees	Feet	Feet	Feet
1	—	10	3
2	1	8	2
3	2	7	2
4	3	6	1
5	4	5	—
6	5	4	5
7	6	3	4
8	7	2	3
9	8	1	2
10	9	—	1
11	10	10	—
12	11	9	5
13	12	8	4
14	13	7	3
15	14	6	2
16	15	5	1
17	16	4	—
18	17	3	5
19	18	2	4
20	19	1	3
21	20	—	2
22	21	10	1
23	22	9	—
24	23	8	5
25	24	7	4
26	25	6	3
27	26	5	2
28	27	4	1
29	28	3	—
30	29	2	5
31	30	1	4
32	31	—	3
33	32	10	2
34	33	9	1
35	34	8	—
36	35	7	5
37	36	6	4
38	37	5	3
39	38	4	2
40	39	3	1
41	40	2	—
42	41	1	5
43	42	—	4
44	43	10	3
45	44	9	2
46	45	8	1
47	46	7	—
48	47	6	5
49	48	5	4
50	49	4	3
51	50	3	2
52	51	2	1
53	52	1	—
54	53	10	5
55	54	9	4
56	55	8	3
57	56	7	2
58	57	6	1
59	58	5	—
60	59	4	5

Inches Diameter.	Inches Circumference.	Side of the Square.	Deduction made for Bark.
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The table showing the height for every degree of elevation may, for the sake of expedition, be figured on the face of it

quadrant. And, in practice, the instrument should be placed exactly fifty feet from the tree to be measured, the calculations being made for that distance; the quadrant is to be placed with the index at *o*, and the sights so as to form part of a line that will touch the left side of the tree at the place where the diameter is wanted; the degree of elevation being noted, the slider supporting the quadrant should be moved from left to right, till the sights on the quadrant form part of a line touching the opposite side of the tree. The space travelled over by the index will be the exact diameter, and on the opposite lines, on the near side, will be seen the corresponding circumference and side of the square; and at the same time, opposite to the degree of elevation, will be seen the height of the point where the diameter was taken. The following figure (6.)



will illustrate the mode of operation. The instrument is placed on an uneven surface fifty feet from the tree. The plumb of the quadrant touching *o* gives a level from the instrument, below which point the tree measures six feet. The first angle of elevation taken is 15° , which, by looking at the table on the quadrant, gives 13 feet $4\frac{1}{2}$ inches. The next angle is 25° , which gives 23 feet $3\frac{1}{2}$ inches, which, by subtracting the last height, leaves 9 feet $10\frac{1}{2}$ inches for the length of the intermediate piece. In the same way the length of the

small piece between 25° and 36° will be easily found. The full height at 36° above the level of the instrument being 36 feet $3\frac{7}{8}$ inches, we have only to deduct the height at 25° , which leaves a difference of 13 feet $0\frac{1}{2}$ inches for the length of the piece. Opposite to 45° on the table I find 50 feet, being the height of the summit of the tree above the instrument, and which, added to the 6 feet below that level, gives the height of the tree, or 56 feet. The legs of the instrument, I should remark, are attached to it with thumbscrews. The single leg has a motion along, and the other two across the instrument, by which means it can be fixed to any level. A telescope attached to the quadrant with cross hairs, and a spirit level sunk in along the table, might be useful accompaniments, but are not indispensable. An index or arrow is placed at the off side of the slider, to mark the space travelled over in taking the diameter.

Annat Garden, Feb. 24. 1826.

An instrument for effecting the same objects as that of Mr. Gorrie, by nearly similar means, has lately been made the subject of a patent by Mr. James Rogers of Marlborough. It is termed an instrument for determining the angles, from the measure of the tangents of which the solid contents of standing timber may be ascertained. On some future occasion we shall give a description and figure of it; in the meantime, such as are curious in dendrometers, will find Mr. R.'s described in the *Mechanics' Magazine*, vol. vi. p. 295. It is certainly a most elegant instrument, but not more original and ingenious than that of our correspondent Mr. Gorrie. — *Cond.*

ART. IV. *Scheme of a Succession of Crops for One Hundred Acres of Arable Land in Picardy.* By THOMAS BLAIKIE, Esq. C.M.H.S., &c. Landscape Gardener, Paris.

Dear Sir,

I HAVE received with pleasure your valuable work, the *Gardener's Magazine*, which is well known here, and read by M. Soulange Bodin, M. Cels, M. Boursault, and other eminent cultivators and amateurs. I shall be most happy to contribute to a work so truly devoted to our art, in every way in my power; and I now send you a farming scheme, made for the French government soon after the Revolution, with a

view to show them how they might cultivate one hundred acres of land with only two horses. The *Directoire* approved of the system, and wished to have it published, as did my worthy friend, the late M. Thouin. It was then the custom in France to sow about seventy seeds to every square foot, and as I proposed to sow only one quarter of that quantity, the proposal was very acceptable to the Directory, who were in dread of a famine.

Perhaps these tables may be useful to gardeners, who act also as farm managers for their employers; they will also afford hints to proprietors who farm their own lands, and to emigrants in the British colonies, how to regulate the distribution of labour, and raise abundance of forage for live stock, and consequently a large quantity of manure.

In the months of December and January, which are generally frosty, the manure is carted upon the land, and the corn thrashed and laid in the granary, or taken to market. In the month of June the hay is made, and in July and August the corn is cut and stacked.

In my next letter I shall give you some account of my life and gardening transactions for above three quarters of a century.

I remain, dear Sir, &c.

THOMAS BLAIKIE.

A Paris, Rue de Colisée, No. 23.

July, 1826.

Tables referred to by Mr. Blaikie.

Acres of Work necessary to be done in every Month in the Year.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
30 V	—	—	—	—	—	—	—	—	15	5	10	—
10 C	—	—	10	—	—	—	—	—	—	—	—	—
5 S	—	—	3	5	—	—	—	—	—	—	—	—
5 H	—	—	2	—	—	—	—	—	—	—	—	—
5 W	—	—	—	—	5	—	5	—	—	—	—	—
5 C	—	5	—	—	5	—	—	—	—	5	—	—
24 F	—	24	—	—	—	—	—	—	—	—	24	—
24 C	—	24	—	—	—	—	—	—	—	—	—	24
10 F	—	—	—	10	—	—	—	—	5	—	—	—
15 C	—	—	—	—	—	—	—	—	—	—	—	—
10 L	—	—	—	—	—	—	—	—	—	—	—	—
100 Acres.	—	10	15	15	20	—	5	—	20	15	20	—

ART. V. *Hints for cultivating Fuchsia gracilis, Erythrina Crista galli, and Salvia splendens.* By Mr. ROBERT REID, Gardener to Mrs. Farley, at Holm, near Kilmarnock; with some Remarks on flowering Climbing Plants in Pots.

Sir,

IF you think the following hints on the culture of three of our most showy green-house plants deserving a spare page in your valuable Magazine, they are very much at your service.

Fuchsia gracilis. An excellent plan to make this pretty plant flower well, is to train it with one leading stem. In winter, when done flowering, cut all the side branches close in to the stem; early in the spring place it in a gentle heat for the space of six weeks, it will immediately send out fine vigorous shoots from top to bottom, and in the autumn will flower abundantly.

Erythrina Crista galli. Of this truly splendid plant, there ought to be at least half a dozen in every collection, and by the following simple treatment they may be flowered twice or thrice in every year. A cutting struck in the spring, potted in a No. 60. pot, and put in a frame where there is a brisk heat, will in two months require shifting into a No. 48. pot, and in the course of the summer to a No. 32. It will frequently flower the first season, but not strong. When the shoot has attained its full length, and begins to ripen, remove it to a cool place in the green-house, and give less and less water as its leaves drop off; let it remain there till the beginning or middle of February; then cut it down within two eyes of the bottom; place it in a frame or hot-house near the light and glass; give plenty of water; it will soon shoot up strong. It may safely be shifted when in a growing state, if required. When nearly in flower, it should be removed to the conservatory, green-house, or any other cool place. Care should be taken, when in this state, not to suffer it to go dry, otherwise the flowers will immediately drop. When done flowering, it may remain in the green-house, or out of doors, for a month or six weeks, and then be cut down again, and treated as formerly. Should the plant be strong when beginning to grow, many small shoots will appear; take the smallest off with a heel to them for cuttings, and leave two or three of the strongest of them for flowering. They will grow in any good fresh loam, with a little peat and sand added. With this treatment I have frequently flowered stems six feet high, and so strong as to require no stake for their support.

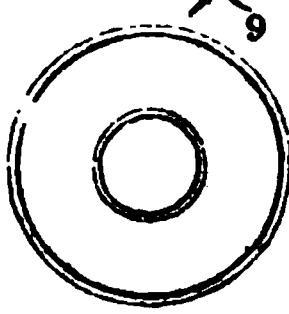
Salvia splendens. As an autumn flowering plant, I know of none more deserving a place in the conservatory than this

scarlet and free flowering shrub. I struck a cutting in February, and it grew to the height of seven feet by September, with numerous branches, and I may say hundreds of spikes all in flower at one time. If kept in the frame two months, it will grow fast, and will require shifting once or twice during this time. I remove it to the green-house about the middle of May, and let it remain there, giving it plenty of air night and day. In June, I shift it into a large pot or tub, according to the size I wish the plant to attain. The red spider must be sharply looked after, otherwise it will ruin the plant in a short time. I have seen it planted in the open ground in summer, and taken up with a ball in the autumn, and potted; but the spikes of flowers are never half as large as when treated in the manner above described. It will grow in any kind of fresh earth, and requires a great deal of water in summer. I put in fresh cuttings every spring, and throw away the old plants.

Most *climbing plants*, when planted and trained in their proper places under glass, add greatly to the beauty of plant-

houses of every description, and fill up many vacancies which could not otherwise be easily occupied. But at the same time I have often thought, that if a number of them were grown and made to flower in pots, it would be a great addition to the beauty and variety of a collection of plants. It frequently occurs, when trained in the common way, that most of their flowers are so far from the eye as frequently to escape observation altogether; and again, from the situation, they are entirely exposed to the burning rays of the sun, which causes their flowers to drop in a few days. From these and other considerations, I have

tried several in pots, and find them to grow and flower as well as I could wish. I have no doubt but most of our hot and green-house climbers might be flowered in this way. One great advantage is, that the most tender of them, when in flower, can be taken to the conservatory, or green-house, where they will continue in flower double or treble the time they would have done in a hot-house. The accompanying sketch, (*fig. 7.*) shows the way in which I train them. It is simple and

convenient. The rods (*fig. 8.*), and rings (*fig. 9.*), are made of strong wire, ~~painted green~~; but they might also be made of wood with iron hooks. The hooks should be made to fit the ring exactly, and the rods can be made of any length, according to the nature of the plant they are meant for. Also, when necessary, they can be taken out of the pot, painted, and put together again with very little trouble. 

Hardy climbers might be trained in the same way; and if mixed with forty or fifty half-standard and standard roses in flower, under a veranda or portico, the whole would have a fine appearance, especially if planted in handsome pots or boxes. In such situations they keep in flower much longer than when fully exposed to the sun.

At a future time I may, perhaps, send you the result of my experience with some other ornamental plants.

Holm, near Kilmarnock, 1826.

ART. VI. *On the Importance of Liquid Manure in Horticulture, and the peculiar Advantages of Soot as an Ingredient for that Purpose.* By Mr. JOHN ROBERTSON, F.H.S. Nurseryman, Kilkenny.

AMONGST the many advantages which horticulture has derived from Mr. Knight's enlightened application of science to its practice, we may reckon as not the least important, his earnest and repeated recommendation of liquid manures. In general, liquid manures have not had that importance attached to them by gardeners which they merit. They may at all times be resorted to with advantage; but, in a number of instances, and particularly where immediate effect is required, no other manure can be so well applied. To enumerate their uses and preparation, however, would demand more consideration than I am enabled to bestow; — my present object being solely to point out a material for the purpose, which I have long availed myself of with success, though it seems to have been overlooked by most gardeners — it is soot.

Sir H. Davy characterizes soot as “a powerful manure, possessing ammoniacal salt, empyreumatic oil, and charcoal, which is capable of being rendered soluble by the action of oxygen, or pure vital air;” all which component parts rank high as nutritious or stimulant manures. On meadows I have used

soot with great advantage in substance, and though sown by the hand, one dressing gave me always heavy crops of hay for two successive seasons; but this is a wasteful mode of applying it, a great proportion of its ammonia, one of its most active ingredients, being volatilized and dissipated in the atmosphere. When dissolved in water there is no waste: — it is all available, and for horticultural purposes I have mostly used it in that state, mixing it up in the proportion of about six quarts of soot to a hogshead of water. Asparagus, peas, and a variety of other vegetables, I have manured with it with as much effect as if I had used solid dung; but to plants in pots, particularly pines, I have found it admirably well adapted: when watered with it, they assume a deep healthy green, and grow strong and luxuriant. — I generally use it and clean water alternately, and always overhead in summer; but except for the purpose of cleansing, it might be used constantly with advantage; and though I cannot speak from my own experience, never having had either scale or bug on my pines, yet I think it highly probable, as the ammonia it contains is known to be destructive to these insects in a state of gas or vapour, that in a liquid state, if it does not totally destroy them, yet that it will in a great degree check their progress.

Other materials for liquid manures are often difficult to procure, and tedious in their preparation: but soot, sufficient for the gardener's purposes, is almost every where at hand, and in a few minutes prepared.

Were gardeners more generally aware that no manures can be taken up in a state of solidity by plants as food, and that they can only be absorbed by them in a gaseous or liquid state, to which all solid manures applied must be previously reduced, before any benefit can be derived from them, they would in many cases facilitate the process by using them in a liquid state. In houses where the rains have not access, it appears to me superior to any other mode of administering manure to trees.

Kilkenny, Aug. 24. 1826.

ART. VII. *An Account of a successful Experiment made by John H. Moggridge, Esq. in Monmouthshire, with a View to ameliorate the Condition of Country Labourers.* By W. H. MOGGRIDGE, Esq. of Woodfield, near Newport.

Sir,

THE communications which have been made to your excellent Magazine by some of your correspondents, and, above all,

the remarks you have appended thereto, on the means of increasing the comforts and respectability of the labouring poor, are so much in unison with the principles I have myself adopted on the same interesting subject, that I cannot refrain from tendering you, for insertion in your next number, some account of an original experiment begun by myself, about six years ago, on a part of my property in the immediate neighbourhood of this place. Twenty years' experience as a magistrate of this and two adjoining counties have fully confirmed in my mind a suspicion I had from general observation previously formed, that the moral and political degradation of the labouring classes in this country, generally, is more the effect of the circumstances in which they have been placed, than of any positive and unavoidable necessity; and by far less the result of their own indifference or criminality, than of the imperfection and errors of that state of society of which they form an essential, but a most oppressed and unjustly treated portion. Not satisfied with endeavouring to demonstrate this great and important truth, by means of the public press, I determined on making it a matter of actual experiment;—in opposition to the advice of nearly every person I thought it right previously to consult, and to the evident surprise of all others. Having at the time a colliery in work upon my estate, I selected a piece of land not very fully or profitably stocked as woodland, at a moderate distance therefrom;—three quarters of a mile from my house, on the opposite bank of the river, and within a mile of one or two other collieries, which I knew my lands to be capable of admitting the formation of, at some period of time. Here, having previously cleared away the underwood and bushes on about one hundred perches of land, I invited several working colliers and others, whom I knew to be industrious and tolerably sober, to build houses fit for the reception of themselves and families, offering them the land and raw materials for building, (to be had on the property, with other temporary aid,) on terms that, whilst they left them but little to risk, provided a prospect of fair remuneration in time to myself, as owner of the property, should the plan succeed. If the experiment failed, the loss I calculated on adding to the amount of other losses incurred in making less valuable experiments; if it succeeded, it would carry with it its own reward. The greatest difficulty I found, in the first instance, to arise out of that state, bordering on despair, which paralyses the exertions of a great majority of our labouring poor;—*this overcome*, every thing else became comparatively easy, especially when I

had once established the conviction on their minds, that nothing done for them would be considered in the light of charity. I was determined to put them upon their own resources, and that what was found wanting should be supplied, but repaid by degrees, and in a manner to be as little burdensome as possible. The plan took, after a short pause, during which the attention bestowed upon it was intense and unremitting on the part of many who had the opportunity of observing what was going on; and I have now the pleasure of seeing a village of well-built, comfortable, and commodious houses, picturesquely rising in grouped and single dwellings, between groves and smaller masses of trees, containing eight or nine hundred inhabitants, where seven years ago were nothing but thickets, brakes, and wood. It must not, however, be supposed that these buildings, many of which are large and costly, have either all, or the major part, been erected by the description of persons I have named as the first adventurers. As these formed a little colony, the baker, the smith, the tailor, the shopkeeper of various trades wished to embark in the undertaking; and deeming it advisable that as many conveniences and advantages as possible should be combined on the spot, a tolerable inn has been erected, and a good market-house built with an excellent room over it, which latter I appropriate to the uses of public worship on the Sunday, and to those of a school on other days. The chapel is occupied in succession by three, and sometimes by four, congregations of different sects of religion on the same day, without interference with each other; my directions being, to refuse the use of it to none, but those who fail in bringing satisfactory testimonials of the good moral character of their officiating minister, or who quarrel with others of different persuasions; and for more than two years, since the chapel was opened, has no instance occurred, to my knowledge, of these requisitions not being satisfactorily complied with. There is, however, another chapel, on a larger scale, about to be erected out of the funds of the congregation intending to assemble therein. One of the excellent and highly useful iron railways, or tram roads, of this country, connecting the interior with the great shipping port of the Bristol Channel, and forming one of several of the existing conveyances to market of the iron and coals of its neighbourhood, had previously been laid through the site of the present village, and since a public carriage running parallel thereto has been completed. I have now begun to make a road at right angles thereto, intended to extend from a new iron bridge at present erecting over the river Sirko-

wey on the east, to the river Rumney on the west, (where I have, within the last two months, laid the foundation of another village,) at a distance of about two miles. I took care that the situation abounded in springs of water; but the last summer has been so trying a one, that the inhabitants have thankfully acceded to my proposition of bringing different springs together, and uniting them into two streams and fountains for their issue in different parts of the village, they defraying one half the necessary cost.

I must now, however, advert more particularly to what may be termed the economical, moral, and political effects of my experiment. And, first, families that were formerly accustomed to live together, by night as well as by day, without regard to age or sex, decency or health, are completely separated, at least as regards adults; and many houses have a room to spare for lodgers, the return for which more than covers the interest of the money borrowed, (if all had been done with borrowed money,) the ground rent, and every other outgoing incident to the premises, and will continue to do so, in all probability, as long as the industrious cottagers continue exempted from the iron gripe of direct taxation, with which they have been more than threatened. Every cottager has his own oven, and bakes his own bread; he has also a snug corner in his pantry, which I hope to live to see filled with a small cask of good home-brewed beer or ale*; but, what is worth both put together, he has his garden. The original allotment to each house was twenty perches of land, and the same amount still accompanies every fresh grant. The taste of the country savoured not of a garden; the old cottager was well content with a few square yards, sufficient to contain a few leeks, and perhaps onions; and I found more difficulty in inducing them to bring their gardens into useful cultivation, than on any other point after the plan was first started: but great praise for little work, where *any* was performed; — the reward of one hundred cabbage plants, or a couple of gooseberry trees, but, above all,

* I should be thankful for any suggestion that might lead to the establishment of any plan for brewing by means of simple unexpensive machinery, (common property,) transferable from house to house in rotation; or any better method of effecting this desirable object without excise interference.

In the *Mechanics' Magazine*, vol. vi. p. 319. is an article entitled "Brewing Simplified," which, as it may afford some hints to our correspondent, and also to gardeners, we shall quote under the head of Domestic Economy, in PART III., recommending the subject to the consideration of such of our readers as are conversant with it. — *Cond.*

of an apple tree or two out of my own nursery, performed wonders; and I, as soon as I safely could, conferred a right of claim for certain progress made within limited times; in order to meet the demands of which, I now order additional quantities of the seeds of useful vegetables to be sown, and fresh plantations of gooseberry and currant trees, &c. &c. to be made.

I must not omit to mention, that I have for many years cultivated, on a considerable scale, the *rheum palmatum*, discarding the other sorts, my experience being precisely conformable to the statements of Dr. Thomson, in your last number, to whom the public ought to feel grateful for his judicious and benevolent attempt to introduce the same to general notice and benefit. Two years ago I gave offsets or divisions of the roots of the *rheum palmatum* to the wives of four cottagers, and the result promises to leave no garden without some of the plants, as soon as the demand can be satisfied. With one only exception, (arising, perhaps, from peculiar circumstances,) all the villagers' gardens are now well cultivated, some of them highly, — producing peas, beans, potatoes, cabbages, cauliflowers, in the vegetable, and, more sparingly, currants, gooseberries, raspberries, some strawberries, and apples, in the fruit line. One poor fellow brought me, with great pride, his crop of apples from a French graft. But of the decisive change of taste in this respect I need give you no other proof than the gratifying fact, that within the last month I have let to various applicants, in different lots, nearly two acres for additional garden-ground! on three years' terms; engaging to let the cultivator have the first offer thereof, on the usual building terms, if wanted for that purpose within the prescribed time; and promising remission of the first year's rent, if the same be brought into good cultivation, and cropped within that period. Many a man that used to waste his spare time and money in public-houses is now to be seen at work in his garden, after the day's labour is over. Several of the women, too, are conspicuously industrious in this way; so that I mean to fix a day annually for bestowing prizes and rewards publicly, which, as a general and regular inspection must then take place, will, I am sure, prove a powerful stimulus. One other fact, and I have done on this head, — I shall leave it to speak for itself, and for the experiment: — Nearly all who originally built one house, have now built, or are preparing to build, another adjoining; and, what I hope will be thought decisive, both

of the reputation of the experiment, and the characters of these individuals is, that not one of them finds any difficulty in borrowing whatever money he may himself be deficient in of the amount necessary to carry his intention into execution.

The site now cleared, (excepting of the timber trees,) for the uses of the village, exceeds thirty acres in extent, in which are included, besides the sites of the houses and appropriate gardens, many considerable detached gardens; a meadow of five acres, reserved to the last for building-ground, if wanted; various small places for the run of a single cow; and a village green of two acres nearly covered with flourishing oak trees. As far as practicable, straight lines, or rows, and attempts at uniformity have been avoided, and hitherto I have been able to prevent more than four dwellings being grouped together. The village is situated in a valley, on ground gently rising from the bank of a romantic mountain river at its southernmost end; towards the north, stretching towards and unto my Bedwelty woods, which cover the steeply rising hills on the west, as the woods and plantations of this place do for the most part, the more humble but finely broken eastern bank of the valley. I have the pleasure to add, that, on the whole, notwithstanding severe drawbacks occasioned by the increasing difficulties of the times, there is still a tolerable prospect of additions and improvements next year; and perhaps you will not wonder when I say, that hours spent in the consideration how these may be best effected, form some of the most interesting of my life. I am, Sir, faithfully yours,

JOHN H. MOGGRIDGE.

*Woodfield, near Newport, Monmouthshire,
October 11. 1826.*

We recommend the above most interesting communication to all our readers, and more especially to such as have it in their power to make similar experiments. Were it once to become the fashion for country gentlemen to be as much occupied in improving the condition of the labouring classes on their estates, as they formerly were in improving the breeds of cattle all over the country, how great and how beneficial would be the change! And why should not this kind of improvement come into fashion as well as any other? Is it more expensive, troublesome, or tedious, or less profitable, rational, elevated, or entertaining? Were such a taste to become general, the first thing would be an exterior appearance of comfort in the cottages and cottage-gardens on every gentleman's

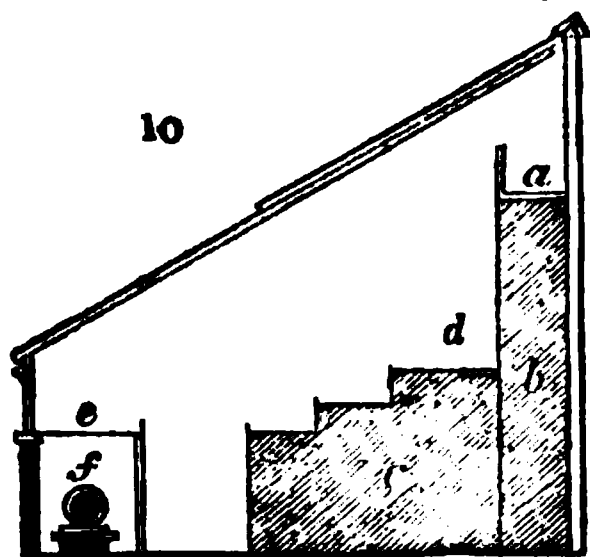
estate, and the next, the establishment of Madras schools in every hamlet and village. The only way to improve the conduct and manners of grown up persons, is to increase their bodily comforts; and the way to perpetuate this improvement in society, is to educate the growing generation so highly, that they will not rest satisfied without the enjoyments which such a state of society affords. The agricultural labourers, in many parts of the country, are in such a wretched state of ignorance and degradation, that to look at their cottages, habiliments, and weekly wages, one would think them incapable of any degree of refinement; but the experiment made by our correspondent shows the contrary, and that in a short time not only the habits of necessity, but even the tastes of a degraded people may be changed. We sincerely hope his principle of improvement will be adopted, and his excellent example imitated; believing that there are few ways in which a landed proprietor could do more good to society, or lay a more solid foundation for self-satisfaction.—*Cond.*

ART. VIII. *Description of a Propagation Shelf in the Clapton Nursery, with the Mode of using it, &c.* By Mr. HUGH LOWE, Foreman and Propagator there.

Sir,

IN compliance with your request, I send you a short account of the propagation shelf, mentioned in the *Gardener's Magazine* (Vol. I. p. 221.)

The green-house, where it is placed, a cross section of which accompanies this, (*fig. 10.*), faces the north, like most of the propagation houses in the principal nurseries, and is forty feet long. The situation of the shelf (*a*) is in the highest part of the house, close under the roof glass, for the advantage of perpendicular light, so essential to young growths. The stage is of flag-stones, and also supported upon brick piers (*c*). On the upper shelf of the stage, a space about a foot wide is reserved as a pathway to the propagating shelf (*d*). There is a front shelf in the usual way for young plants fit for sale, or for such as are bringing forwards, to yield cuttings (*e*). This house, and



most of the others in this nursery, are heated by steam, in a very masterly manner, by Messrs. Bailey of Holborn. A single pipe (*f*) is found quite sufficient to keep up the temperature in the most severe weather. Air is admitted by the front and top sashes in the usual way.

On coming to Mr. Mackay's nursery in January 1823, I found this shelf filled with cuttings of half-hardy evergreens, under common hand-glasses. These were potted off in the month of March following, and about the end of July we filled the shelf in the following manner; viz. three inches of potsherds, brickbats, &c. for drainage; seven inches turfy peat mould, mixed with a little white sand; and three quarters of an inch of pure white sand, well washed, on the top, taking care to incorporate the lower part of the sand with the surface of the peat, which, I ought to observe, was made a little finer on the top, that it might the more easily incorporate with the sand. A copious watering was given, and immediately afterwards the surface was beaten smooth with a flat-sided mallet; the glasses, which vary in size from one inch to fifteen inches in diameter, were then fitted on; arranging the highest at the back, and placing them so as to leave as little of the surface as possible unemployed; the cuttings were put in in the usual way, or pretty nearly as directed by Mr. Sweet, in his very excellent "*Botanical Cultivator*." And here they usually stand till the following April, when by that time we find most of them fit to pot off. The only difference of treatment from that given to cuttings in pots is, that we rarely move the glasses to wipe them, finding no inconvenience from damps, &c.

The glasses in use at Mr. Mackay's nursery are not quite the same as those commonly used about London. They are of various shapes, and agree only in one particular, that of having a small hole at the top, which is generally left open, but can be stopped at pleasure with a bit of cork. (Square glasses, which might either be blown in that shape, or formed of eight panes in lead-lap, would save room in such a bed as the above. — *Cond.*)

In giving water, we apply it freely over the tops of the glasses. In this manner we have succeeded in striking most of the difficult species of *Banksia*, particularly *B. grandis*, and *speciosa* var. *quercifolia*, *dryandroides*, *pulchella*, *nutans*, &c. I have also struck in this way nine species of *Dryandra* out of the fourteen species now at Clapton, and have little doubt but the other five may also be so propagated, when they come into a state fit to afford cuttings. *Elichrysum* strikes readily in this way; all the natural order *Epacrideæ*, and *Polygala*, *Enki-*

anthus, Camellia, Callistemon, Erica, and in fact almost all the hard-wooded green-house plants in the Clapton collection. Should you think this will be of the least use to any of your numerous readers, you are quite at liberty to publish any part of it you may think proper, and, although more accustomed "to the pruning knife than the pen," yet to the best of my abilities I shall be happy to communicate an account of any thing which you may at any time think of sufficient importance to deserve a place in the Magazine.

I am, Sir, &c.

HUGH LOWE.

Clapton Nursery, Aug. 15. 1826.

ART. IX. *On the Remuneration of Gardeners, including some Remarks on their Education and Emigration.* By W. R. G. West Riding, Yorkshire.

Sir,

I HAVE lately seen your Magazine; I shall subscribe to it as a valuable work, and I wish I could give it my unqualified approbation.

Surely the letter upon remuneration to a most respectable class of men holds out cause for discontent, and may create combination, without aiding their craft: high prices must depend upon supply and demand.

Education will avail much to every man, when imparted with discretion. "The march of intellect" has already injured, in many departments, both the hirer and hired, for the latter are not always the best judges of their own craft, and when produce is too highly rated it becomes unmarketable.

There are diversities of estates as well as intellect; when the latter expands beyond its residence a new one is sought; but will not a prudent man consider whether there are as many *good places* as there are *good gardeners*; are places always at hand? Increase the value of labour, and you decrease the demand. The merchant knows he can purchase the higher order of garden luxuries cheaper than he can cultivate the meaner sort, and depend upon it Cocker's arithmetic will have its weight.

Some neighbours maintain the higher order of gardener: my situation requires knowledge, not labour; my brother, from different causes, requires labour, not knowledge. Hence

are diversities of places and wages, as well as talent and industry. Various articles are amalgamated in supply and demand, and I would advise young gardeners not to seek the housekeeper's room before a vacancy occurs in the hall; many, to my knowledge, have from this cause retrograded: —

“*Incidit in Scyllam, qui vult evitare Charybdin.*”

They cannot do better than add contentment to the excellent lesson you have given (Vol. I. p. 356.), “Lose no time, and concentrate attention.”

“*Necessitati qui se accommodat, sapit.*”

You may perhaps suppose me averse to education and remuneration. By no means am I so, *sub modo*; but I have lived too long, and seen too much of operative classes not to know how much contentment sweetens a bitter potion, and how easily the seeds of discontent vegetate and poison the best feelings, affections, and efforts of man.

From such evils, for the gardener's own sake, I would screen him. I would prepare him for the higher departments of horticulture, but I would fortify his mind to wait in patience until better prospects may offer to his view. I would teach him English composition, but I would head his common-place-book with a valuable line from Scaliger:

“*Omnibus scribendi datur libertas, paucis facultas.*”

There are few feelings so difficult to repress as those which arise from half-matured reading. Superficial men deem it nothing to know any matter, unless others are aware of it,

“*Scire tuum nihil est, nisi te scire hoc sciat alter.*”

The wages of gardeners *here* seem higher than in London, which is an anomaly I cannot understand. If they are discontented with them, I advise a comparison with the incomes of men in other departments, — with the college curate, merchant's clerk, but more particularly with subaltern officers, who have purchased their rank and pay. Their own good sense would then perhaps guide them to enjoy, without repining, the blessings of Providence. Of one point they may remain certain, — that wages and merit will ever go hand in hand; for the servant cannot be more desirous of a good place, than a master is of a good servant.

If I may crave your patience, I would say, emigration should not be lightly canvassed. Experience in this district has given rise to mature enquiry and sober caution; and I am

glad to say, a trip to America has given many of our radicals a better feeling to the *natale solum*.

One traveller gives one account, and another a different one. But few of our unemployed weavers, with an united handicraft, have eulogized the colonies they sought after; and other settlers send home letters of disappointment and misery. Government has now agitated the question, and where valuable and enterprising young men are willing to expend their manhood in other climes, it is grievous to think they may be stranded, from the want of rudder or compass; more particularly so, since few emigrants have the power of removal from the land of their first destination, be it good or bad.

To the young gardener, I wish the best encouragement; to the old one, peace and competence. I wish the opulent as much amusement from horticulture as I myself have received: and to yourself, thorough success through all your useful and valuable publications.

W. R. G.

West Riding of York.

ART. X. *Some Account of a remarkable Lemon Tree in the Garden of C. Hoare, Esq. F.R.S. H.S. &c. at Luscombe, Devonshire.* By Mr. RICHARD SAUNDERS, Gardener there.

Sir,

I BEG respectfully to present you with these two lemons, the produce of a tree which I raised from a cutting six years ago. Exclusive of these two, there is on the same tree ninety-four others, which have attained full maturity, and a remarkably large size, and also a vast quantity of green fruit of various sizes. This tree, with several others, raised at the same time, and in the same manner, consisting of citrons, shaddocks, and limes, was planted when one year old, against a common wall, (the soil having been previously prepared,) the whole of which have grown in a most vigorous and astonishing manner, some of them making shoots from six to seven feet in length, in one year. The third year after being planted, they produced a number of fine fruit, and have continued very productive ever since: one of them, a citron, produced last year thirty-nine fruit, measuring from fifteen to eighteen inches in circumference; two lime trees produced in the same time above three hundred fruit. The trees are protected from frost during the winter with frames and sashes.

Should you consider this worthy of a place in your excellent and interesting work, the *Gardener's Magazine*, it is at your disposal, and it will give me great pleasure to have contributed in the least way possible to such a useful and desirable work.

I am, Sir, &c.

RICHD. SAUNDERS.

The fruit sent us, of one of which we took a sketch, (*fig. 11.*), weighed 14 oz. each, and measured $11\frac{3}{4}$ inches round, and 6 inches long; the length of the leaves was from 9 to $10\frac{1}{2}$

inches, and their breadth from 4 to 5 inches. Had there only been a few fruit on the tree, this size, large as it is, would not have appeared so extraordinary; but when it is considered that there were eight dozen all remarkably large, besides an immense quantity of green fruit, and all this upon a tree of only six years' growth, the whole may be considered as well worthy of record. We have often thought that the orange tribe might be more cultivated than they are as a table fruit. A house 6 feet broad, 15 feet high, and 30 feet long, the trees planted in the soil against the back wall, would supply, we should think, a plate of oranges and a plate of shaddocks every day in the year. These fruits are always in season, generally liked, and, what is not the least object in putting a dessert on the table, produce a splendid effect to the eye. — *Cond.*

ART. XI. *Remarks on the Establishment of a Horticultural Society in the Highlands of Scotland.* By Mr. JOHN CAMERON, Gardener, Champion Hill, Camberwell.

The Gardener's Magazine is one of those useful modern publications which every lover of gardening should support, as it conveys information even to our antipodes. It is true, horticulture has of late years improved to a wonderful height in Great Britain; but while we are lending our aid to Ireland in planting mulberry trees and providing silk-worms to that country, we are totally forgetting that part of Great Britain called the Highlands of Scotland, namely, Argyle and the western parts of Inverness-shire, in regard to which districts I shall make a few suggestions for public information through the medium of your Magazine.

All the southern counties of Great Britain have provincial horticultural societies, but in the West Highlands there are no such institutions of a public nature. I admit, that landholders are not so numerous of late years in these northern counties, and gentlemen's seats are, therefore, more divided from each other; and, consequently, the number of gardens considerably reduced. Now I would propose, that a Horticultural society should be formed in every county, having experimental grounds centrically situated to landholders. This would prove an important benefit, and, properly supported, such an institution would increase in usefulness. As it would encourage industry among the tenantry, it would also greatly add to the improvement of landed property generally. Many rare alpine plants would be found among the craggy mountains that might be readily exchanged for plants of other countries. The carriage or transportation of these to and fro would not be expensive, as land conveyance would seldom be resorted to of necessity, and water carriage, by the aid of steam, being now so generally in use, the freight would be trifling. If proper encouragement be given towards the management of such institutions, as a natural consequence they will strive to vie with each other in obtaining a good name. These institutions might be incorporated with agricultural societies, and I hope the truly patriotic chieftains will immediately set about the establishment of such among their cottagers and crofters. Prizes might be held out to those who rendered themselves most useful in the support of the establishment by their discovery of plants, &c. &c. and their most successful treatment. These prizes I would propose

to be snuff-boxes, fitly mounted, and distinguished for the purpose, by the following inscription : — “Token of acknowledgment from the Highland Horticultural Society to ———.” As the distribution of these would augment, the consumption of snuff would increase, and the tobacconist thereby benefit.

I shall enumerate, in furtherance of my proposal, some very productive orchards in the two counties I have referred to (Argyle and Inverness). At Lochnile, the seat of General Campbell, there is a very productive small garden, enclosed with a stone wall; not far distant from it is another, belonging to the same gentleman, with a green-house, and there are several such gardens belonging to the neighbours. Mr. Macdougald of Dunolie, near Oban, has a very productive old orchard, consisting of cherry, plum, apple, and pear trees, also enclosed by a stone dike and hedge. In Oban there is likewise a small nursery, consisting chiefly of pears and other fruit-trees, also enclosed by a stone dike. At Auchnacalich, again, the seat of Ronald M'Donald, Esq., Staffa, Isle of Mull, there is a very neat garden, enclosed by a good stone wall, and very productive. Mr. Stewart, of Auchadanach, has a very productive orchard, consisting chiefly of apples, pears, cherries, and plums, enclosed by a stone dike. I am informed by a recent letter from Tobermory, Isle of Mull, that Colonel M'Lean, of Cole, is making fine gardens near that village. There is another old garden in ruin there, belonging to Colonel Campbell, now inhabited by owls and jackdaws: the garden was admirably laid out in the ancient style, enclosed with stone walls and a sunk outer fence, but in consequence of the mischievous boys and sailors in the neighbouring village, hardly a fruit tree now remains. Colonel Cameron has a most excellent garden in the very bosom of Ben Nevis near Fort William; this garden is very productive, although for four months in the year the sun never shines on it. There are many other excellent gardens in this neighbourhood, which are now much neglected, and to which the emulation produced by a Horticultural society would be most useful.

If you think any of the observations which I have made are worthy of your valuable Magazine, I shall be happy if you will give them a place, as I am anxious that the matter should be taken up by gentlemen connected with my native country.

JOHN CAMERON.

ART. XII. *On an Improvement in the Propagation of the Double Camellia.* By Mr. WILLIAM PIKE, Gardener to W. J. Brereton, Esq. of Brinton, Norfolk. Communicated by JOHN CARR, Esq. of Holt.

Sir,



I HAVE lately witnessed the result of an experiment made this summer by Mr. William Pike, on the propagation of double Camellias, which, if new, and he has never heard of its being adopted by any one else, appears to be well worthy the attention of the cultivators of that beautiful plant. The method he has adopted is this: instead of approach-grafting in the usual manner, ~~he first~~ detached shoots of the kinds to be propagated (~~five different double sorts~~) from the plants on which they grew, and then inarched them upon the single plant, leaving a piece at the bottom of each sufficiently long to thrust into a phial which he kept constantly supplied with water. (*Fig. 12.*) The whole of these plants have taken admirably, and have many buds formed for flowering: the ends also have formed knobs apparently to emit roots. If you think this communication is worthy of a place in your valuable Magazine, you are at liberty to insert it.

I am, &c.

JOHN CARR.

Holt, Norfolk, Sept. 5th, 1826.

ART. XIII. *On the Importance of ascertaining the simultaneous flowering of Trees and Shrubs.* By W. T.

THIS correspondent, whose communication want of room compels us to abridge, states that he spent the spring of 1825 in Paris, and that he was much gratified in the gardens of the neighbourhood, with the manner in which flowering shrubs were grouped, so as to flower at the same time, and present masses of colours, brilliant, and at the same time harmonious.

The *Pyrus spectabilis* (*fig. 13. a.*) he recommends as deserving a place in every shrubbery; the two species of Judas tree, *Cercis siliquastrum* (*b*), and *canadensis* (*c*), he observed grouped with *Laburnum* and purple lilac, producing a very

fine effect; *Prunus nigra* (*d*), he found one of the earl est flowering trees about Paris; *Pyrus spectabilis* (*a*) and white

Lilac come into flower together; *Cydonia Japonica*, red and blush, and the double yellow Whin formed a fine group; the Snowdrop tree, *Halesia tetraptera* (*e*) he found of a large size, and covered with white blossoms; he mentions a number of other trees and shrubs which he found particularly beautiful in the garden of Mr. Boursault; and in the Petit Trianon and some other gardens he observed *Cytisus purpureus* and *austriacus*, and white and yellow Broom, budded on Laburnums, and in bloom at the same time. This correspondent suggests that tables of the simultaneous blossoming of trees and shrubs would be of great importance to the ornamental planter; and he thinks that it would add greatly to the value of the "Flora Conspicua" of Mr. Morris, if he would, with every plant figured, give a list of all such as come simultaneously into blossom, with the colour of the flower and height.

Birmingham, 16th April 1826.

A list of simultaneous flowering trees and shrubs, that is, of such as on the average of years come into flower in the same week, would unquestionably be of considerable use to the ornamental planter. Mr. Morris's elegant work (*Gard. Mag.* vol. i. p. 432.) is discontinued; but perhaps some other person will take the trouble of forming such a list, and whoever does so will find the most complete and easy means which,

as we believe, Europe affords, in the arboretum of Messrs. Loddiges (*Gard. Mag.* vol. i. p. 318.) The well-known liberality of these gentlemen will, we are sure, afford free access and every facility for making the necessary observations. We shall be happy to suggest what we consider the best plan of proceeding, and of arranging the list, and when completed to publish it in the *Gardener's Magazine*. In the meantime the nearest approximation to such a list, will be found in our *Hortus Britannicus*, Part IV. *Classification of Hardy Trees and Shrubs according to the time of flowering, the height they grow to, and the colour of the flower.*
— COND.

ART. XIV. *On the Propagation and early Fruitfulness of the Fig-tree in Pots.* By Mr. JOHN BORROWDALE, Gardener to Mrs. Dent, Wareop Hall, Westmoreland.

Sir,

I HEREWITH send you an account of some figs, which I have lately propagated by cuttings. I got six well ripened young shoots, having only about one fourth of an inch of last year's wood, at the bottom of each cutting; I cut them across smoothly and at right angles, and planted them on the 15th of March last in the smallest pots I had, one in each pot, filling the pots with very light compost, but rich in manure. I then plunged them up to the rim in the pine-pit, and they very soon began to grow vigorously. As soon as they had made five and six leaves, I pinched out the leading bud. On the 1st of January I shifted them into pots seven inches deep by six inches wide. On the 1st of June I took their balls away, as they readily parted, being composed of such light compost; being repotted, they very soon made four and five shoots each, and when these had got as many joints and leaves, I again stopped them. Each plant has now from fifteen to eighteen fruit, which are swelling remarkably well; I have since removed them into pots ten inches deep by nine inches wide, and I also give them plenty of liquid manure. They are standing on a shelf in the pine-stove, and I think they will ripen the present crop by the middle of October, and they are putting out another set of branches, so that I shall probably get a second crop by Christmas. They are the large white Genoa fig. Should you think this

worthy a place in your valuable Magazine, you are heartily welcome to do what you like with it.

I am, most respectfully, Sir, &c.

JOHN BORROWDALE.

Wareop Hall, Aug. 8th, 1826.

The result of our correspondent's experiment agrees with the practice of Mr. Knight, as recorded in *Horticultural Transactions*, (Vol. iii. p. 459.) It must be a considerable satisfaction to the admirers of this wholesome fruit, to see confirmed with what ease it can be cultivated to a high degree of perfection, and at any season. Where there is a flued pit, a cool back shed or cellar, and a good stock of plants in pots, it must be an easy matter to have ripe fruit every day in the year. There is no fruit-tree that bears so well in pots as the fig. —
Cond.

ART. XV. *On the Treatment which Gardeners out of Place generally receive from the Nurserymen, and the Consequences resulting therefrom.* By SENSITIVUS, of Yorkshire.

Sir,

THE respect which you seem to have for gardeners, and circumstances connected with gardening, persuades me that you will readily pardon the liberty I have taken in making a few remarks to you; and as I am a subscriber to your *Gardener's Magazine*, perhaps you will allow them to occupy a page therein.

I observe in your Magazine notices on the inadequacy of gardeners' wages, of which many know the effects, but few consider the cause. Some argue, that it proceeds entirely from the trade being overstocked with Scotchmen; but I differ from those who are of that opinion, and attach the greatest blame to nurserymen. A gardener leaves his situation; then, as his best resource, he hies to a nurseryman, and solicits for employment. The nurseryman makes as many wry faces as if he were taking physic, and perhaps at last (apparently with much pain to himself) he grumbles out as contemptuously as possible, "We are full of hands, but, as we promised to do something for you, we will try to find employment for you a short time: we give so much wages," &c. &c. In this manner, persuading a poor fellow that they are quite full of hands, but will take him on merely to accommodate him, it is a very fine plea for offering him low wages; but most gardeners

know that nurserymen have always more work than workmen. No nurseryman in the north of England gives more than 10s. 6d., and most of them only 9s. per week to gardeners, and to their common labourers from 2s. to 5s. per week more. Thus disrespectfully treated and imposed upon, a gardener goes very heartlessly to work in the nursery. He knows the nurseryman has taken an advantage of him, and he takes care to disappoint him of his purposed unjust profit: he knows what a day's work is; if he has done any thing in the forenoon, — then, about the middle of the afternoon, it is a common phrase to say, “Come, my lads, a pennyworth of work for a penny; light meals light labour, &c.; we've earned our 1s. 9d., (or 1s. 6d.; which ever it is,) let us take it easy;” and then, till the clock strikes six, nearly all they do is watching the motions of the foreman, who is generally and appropriately called the “slave driver.” I could name one who is in a celebrated nursery, not one hundred miles from York, who not only gives them all the insulting, abusive, and provoking language imaginable, but will frequently take them by the collar, and, if he thinks his own skin is safe, he will sometimes, in a fatherly manner, give them a little stick correction. It is very reasonable to suppose that nurserymen encourage such conduct. Now the question is, “do they derive any benefit from this treatment to gardeners?” It may be argued that they could not sell their plants, &c. at so low a price if they gave more wages; but I am thoroughly convinced that they could sell their articles full as low, pocket as much cash, (which consideration to them is primary to that of accommodating gentlemen with trees, &c. at a low price,) gain a more warm and solid respect from gardeners, and the business would go on with far more general satisfaction, if their treatment to gardeners was more respectful. Well, he waits twelve or eighteen months for a situation, his clothes are getting threadbare, and he knows not how to get more, unless his friends can advance him a little money; then he begins to despond, and, if he has a chance, he takes a situation for four-fifths of the wages he ought to have: he enters his situation, and his dread of a nursery makes him submit to what he ought not to submit to, very often in disappointing the nurserymen of their legal advantage; at any rate, he has the greatest dread of the nursery where he has been, consequently he endeavours to make his interest another way. Now, sir, I think if nurserymen would weigh these facts well, they would no longer treat gardeners as troublesome weeds to them, but (even allowing them to be solely actuated by self-interest)

would treat them as useful plants. I am no enemy to nurserymen, for I am confident we could not do without them. I am a root-grown gardener, and my greatest delight is to see the business, in all its branches, flourish. I don't ask nurserymen to give gardeners extravagant wages, but merely as much as they can subsist on, till they meet with a situation, and which would prevent gentlemen from taking advantage of their absolute necessity. I wish nurserymen and gardeners united, for the good of all, but not combined to impose upon gentlemen. I wish all gentlemen well served, nurserymen as well paid as they have been, and gardeners better paid, for "none but gardeners know a gardener's care."

Yorkshire, August 14. 1826.

ART. XVI. *A simple and effectual Method of destroying the Red Spider.* By Mr. ALFRED KENDALL, Gardener to the Reverend H. Palmer, Carleton Curlieu, Leicestershire.

Dear Sir,

As the avowed principle of the *Gardener's Magazine* is the advancement of horticultural knowledge, more particularly among practical men, every gardener ought to consider himself bound to contribute any thing in his power that may in any way further so useful a design. Let not the young gardener, therefore, be discouraged in making any communication, at the idea of being laughed at by his more scientific brethren; for whilst the work in question continues to be ably conducted, no article will meet the eye of the public that the young gardener will ever live to be ashamed of; and let me add, that chance sometimes detects what has escaped the most scientific exertions. In contributing my mite towards furthering this object, I think nothing will be more acceptable to the practical gardener than a simple, easy, safe, and effectual remedy for that destructive enemy to vegetation, the red spider. Every gardener must have experienced its destructive effects, but few, comparatively speaking, know how to counteract them. Sulphur is often applied with advantage; but to some plants that remedy is worse than the disease; for though it does not injure the peach or the vine, it is death to the melon, and there is no plant so high in esteem, more subject to the attack, nor more susceptible of the injurious effects of that pernicious insect. In making this communication, I by no means lay any claim to the discovery of so excellent a remedy: my only wish is to make it more generally known, as I have never seen it noticed in any publication, not even in that excellent work,

the Encyclopædia of Gardening, which work ought to be in the hands of every gardener that has *any wish* to excel in his profession.

To one gallon of rain water add six ounces of soft soap, which is to be completely dissolved before using. When used, it is to be beaten into a fine lather, (a common hearth-brush, I find, answers the purpose best.) *The lather only* is then to be taken in each hand, and carefully applied to the upper and under side of every leaf that is infected. If the disease is not violent, one dressing will be sufficient; but where every part of the plant is infected, two dressings will be required, as it will only kill those insects that are actually immersed in the fluid. The best time for applying this remedy is in the evening, after which the glasses are to be close shut down for the night. The reason for using the *lather only* is, the insects are immersed a much longer time in the fluid than they would be by the application of plain soap and water. This remedy may at first appear a tedious one, but I can assure you, from my own experience, it is not so; for any person may dress a three light frame, where the plants are properly thinned, and where every leaf requires to be dressed, in one hour; and where is the gardener that would grudge even a day to preserve the flavour of his fruit, and save his plants from certain destruction? The above receipt is not confined to melons only, for no plant, however tender, to which I have applied it, appears to be in the least degree injured by it.

If the foregoing article should be found worthy a place in your excellent Magazine, I shall consider myself happy in having contributed something useful to my profession; and that every gardener may be equally ready to promote the advancement of gardening, is the ardent wish of your well-wisher and humble servant,

ALFRED KENDALL.

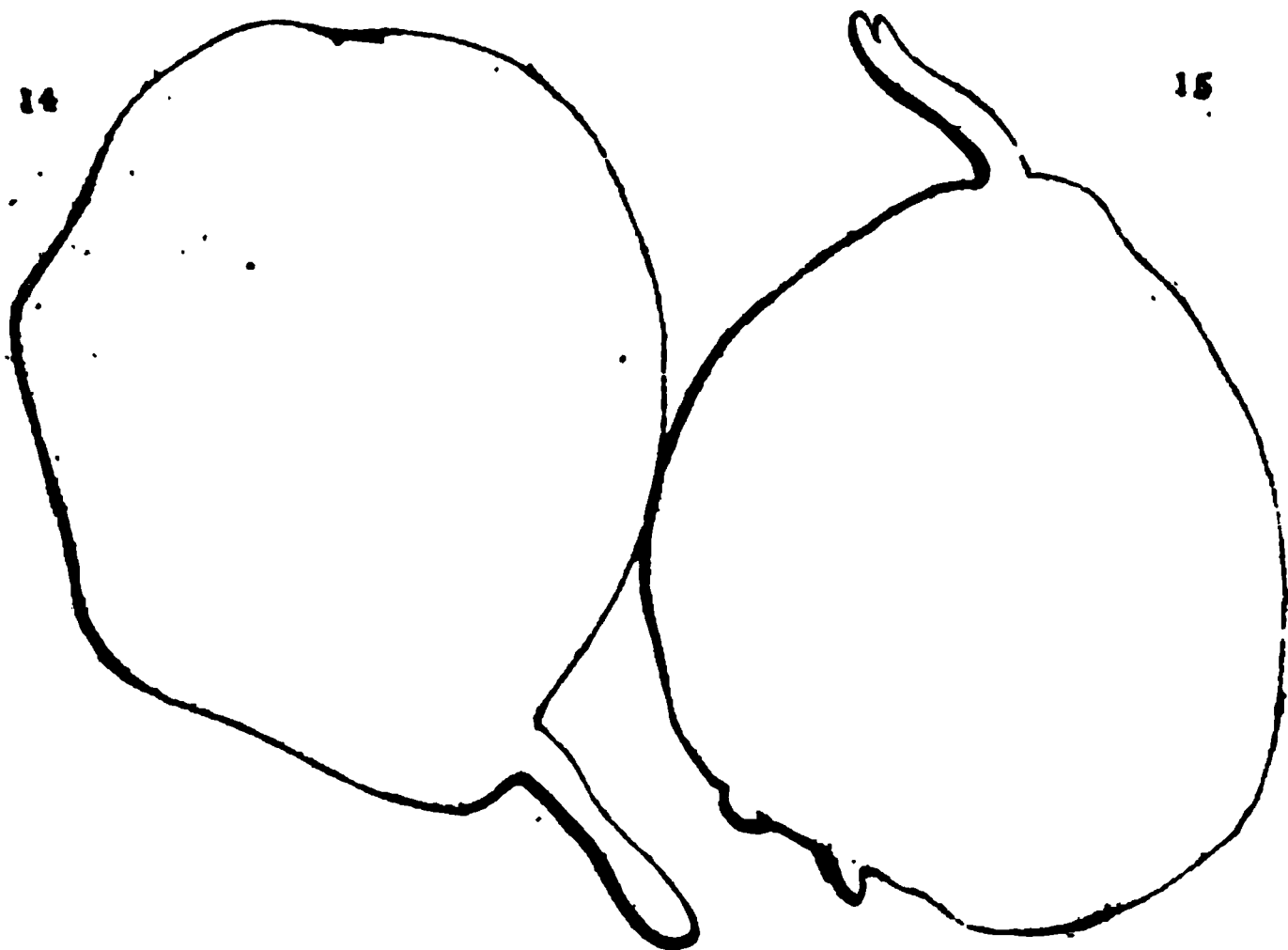
*Carleton, Curlieu Hall, near Kibworth,
Leicestershire, Aug. 29. 1826.*

ART. XVII. *Some Account of the Henri-Quatre, Urbaniste, and other new Pears, introduced and fruited by John Braddick, Esq. F.H.S.* Communicated by Mr. Braddick.

Dear Sir,

I HEREWITH send you specimens of two new pears, both prematurely (September 13.) blown from standard trees

planted in an exposed situation. The first (*fig. 14.*) is called *Henri Quatre*, by M. Van Mons, of Louvaine; the other



(*fig. 15.*) is the *Urbaniste*, raised by the late Count Coloma of Malines; this was his favourite pear, selected from all that he raised. The fruits from those trees were exhibited by me, before I left Surrey, at the Horticultural Society's meetings; the trees having been recently moved, the fruit can scarcely be expected to be of the size and quality that they will attain to, in two or three years' time. I however judge, that you will accord with me, after tasting the *Urbaniste*, and making proper allowance for its not staying on the tree till ripe, in pronouncing it to be a pear of the first class, and one that will be of the greatest benefit to our market gardeners and fruit growers; for what these people stand in need of is, a pear that will, if prematurely gathered, ripen in their baskets, acquire a good flavour by being so treated, keep a long time in their hands, and die like a good Christian with a sound heart at last; all of which good qualities I venture to pronounce that the *Urbaniste* pear possesses, when grown on a standard tree in our country: much farther south it is probable it would not be so good, for I find by experience, as no doubt many others do, that every fruit of the apple and pear kind has its favourite latitude. When I first brought buds of the *Urbaniste* to England, I gave them liberally away to many nurserymen, some of whom must have plants for sale by this time.

Boughton Mount, Sept. 13th, 1826.

JOHN BRADDICK.

The Urbaniste, after being kept till the 20th September, began to yield to the pressure of the thumb near the stem; we then tasted it, and found it, as we think, about as good as the Swan's Egg. The specimen of Henri Quatre was partly decayed before it was received. — *Cond.*

Nov. 15. — We have received, at different times this season, specimens of upwards of a dozen sorts of new pears from Mr. Braddick; but as the late rains succeeding to so very dry a summer have materially injured both the flavour and keeping property of hardy fruits, we forbear reporting on them till we shall have tasted them under more favourable circumstances. The following extract from one of Mr. B.'s letters, dated *Oct. 31.*, contains some important hints. "Pears do not keep well this year; the two last parcels I sent you, (*Beurré d'Hiver, Gros Dillen, Josephine, and *King of Pears, and Egg Pear, *Passe Colmar, *Beurré d'Aremberg, and *Poire d'Ananas), have become fit for table full two months earlier than usual. This, I conceive, is occasioned by the dry summer being followed by rain just before the keeping fruit ripened; this rain has surcharged their juices with water, and consequently induces premature decay. I have received buds of Merveille de la Nature Pear, (Vol. i. p. 472.), late in the season; they have every appearance of having taken, and as soon as they make wood, I shall be glad to share it with any horticulturist that desires to participate in the experiment of making trial of its good or bad qualities when grown in our climate: for I am firmly of opinion that no judgment can be formed of fruit raised in one country, when grown in another of ever so little difference of climate and soil, until a fair trial has been made in various ways; such as growing in exposed and sheltered situations, on wall, espalier, and standard trees, gathering early and late, &c. &c. The Alpha pears this year, which I gathered, to disburthen the newly-raised young trees, about the 15th of September, kept well, although a little shrivelled, and came to table with good flavour last week, when the fruit of the same tree, which I let hang till the 5th of October, all turned mealy before the 20th of the same month; indeed, their flavour was by no means equal to the windfalls, which were blown from the tree before the rains came. As to your correspondent wondering at my having built my cellars so deep, you may tell him that I should not have done so, had it not been for the temptation of the fine stone which I found and obtained at an easy expense by so doing. Fruit put away completely dry, and excluded from

atmospheric changes, and consequently frost, in a dry situation, I conceive will keep as well in any other place as in my deep cellar. At Ditton, I used to keep it in the middle of the house, in a closet surrounded by three walls and three doors, not being able there to go much under ground."

" Boughton Mount, Oct. 31st, 1826."

The same effect which Mr. Braddick notices as being produced on keeping fruits by copious rains after a very dry summer, every farmer knows is also produced on bread corn, potatoes, and roots, as well as to a certain extent upon hay and straw, and doubtless also upon coppice-wood and basket willows. A sort of second sap seems to have come into many trees from the same cause, which, though it has not produced shoots, yet the leaves, instead of falling off at the usual time, though they have become black with the late frosts, yet still adhere.

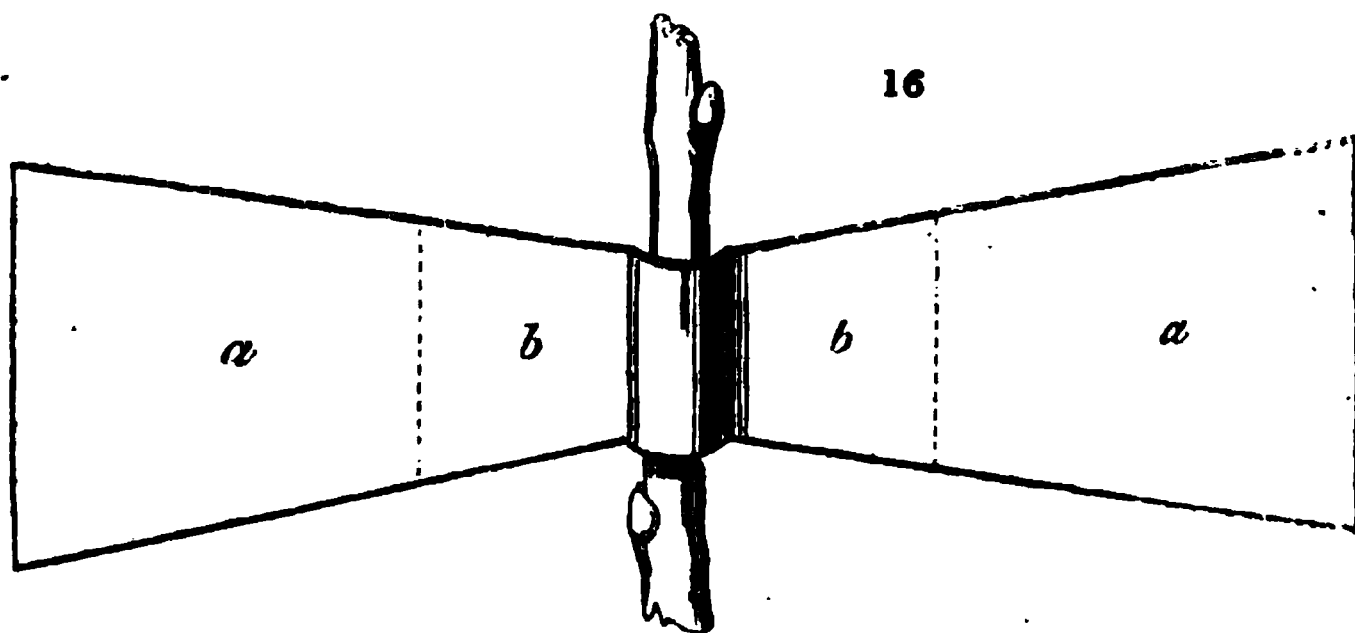
Of the pears enumerated above, those marked (*) are decidedly the best. Among the summer pears sent, the Belle Lucrative and Beurré Kirke were remarkably handsome. In our next we propose to give a descriptive list of twenty sorts of pears, introduced and fruited by Mr. Braddick; plants of nearly all of which, it is believed, may now be had in the nurseries, owing to the very liberal and truly patriotic manner in which our highly-valued correspondent shares every novelty he receives with those whose interest it is to increase and disseminate such novelties. This, in our opinion, is the true and legitimate, and in fact the only real and permanent mode of effecting improvements; it is the natural, and, if the expression may be used, healthy way of introducing them, in which supply and demand are reciprocal. It is quite possible, that, by extraordinary exertions, new things and new ideas may be introduced faster than they can be incorporated with the old. In the same way, that, by the use of stimulants, an artificial appetite may be created, and more food taken into the stomach than can be digested. We think it much more consonant with sound principles of policy, and especially in a free and wealthy country such as Britain, that improvements should be made by individuals, rather than public bodies. The latter, in our opinion, will do most good by seconding the efforts of private persons; by removing the impediments in their way, and bringing obscure men into notice. When public bodies attempt improvements themselves, unless these improvements be such as no individual can undertake, the effect is to discourage individuals, which must end in injuring the

art these bodies intend to promote. On this principle, we have always disapproved of various things attempted by the Horticultural Society; acknowledging, however, at the same time, that on the whole they have done an immense deal of good, by directing the attention not only of England and Europe, but of the whole world to horticulture. These remarks are not so foreign to the subject of this paper as they may at first sight appear to be; they arise from reflecting on the extraordinary exertions made by Mr. Braddick in introducing new fruits; from inspecting a list which has just been sent us by Mr. Cameron, of the astonishing number of new plants introduced by Robert Barclay, Esq. of Bury Hill, and from some other relative communications which have all flowed in upon us at the same time, and with which we expect in due time to gratify our readers. — *Cond.*

ART. XVIII. *Description of a Mode of training and fastening the Shoots of Vines on the Roofs of Cottages.* By Mr. JOHN LATHAM, of Aylesbury.

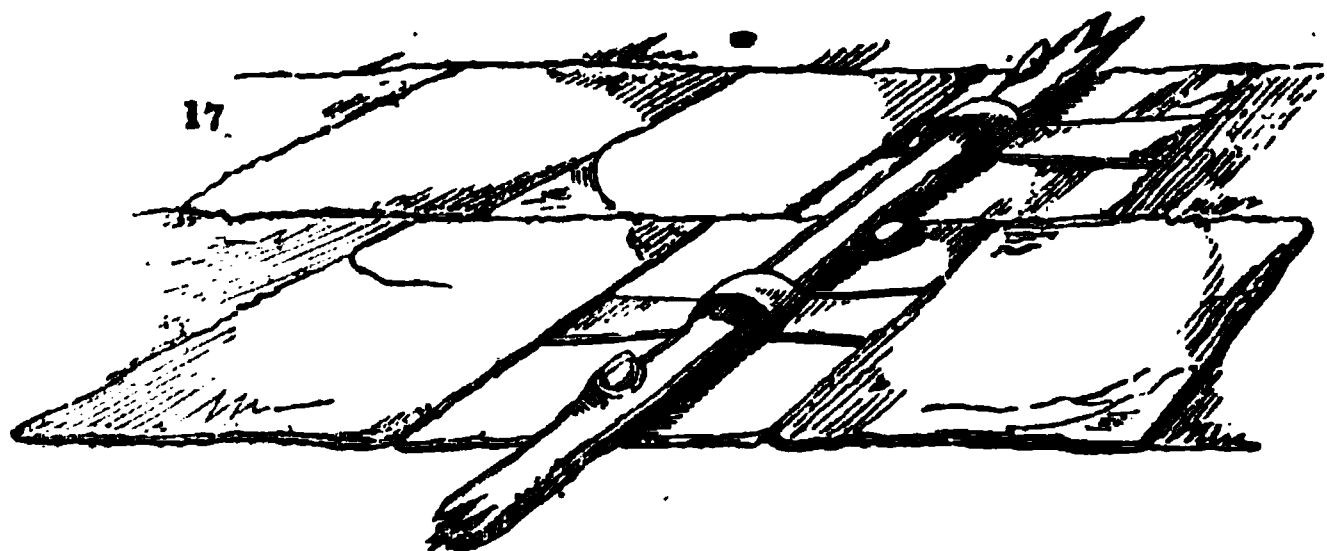
Sir,

SHOULD you think the following communication worth insertion in your very useful and entertaining Magazine, it is much at your service. Gardeners and others are often deterred from training vines over slate and tile roofs from the expense and trouble of trellis work. By following the undermentioned simple method, as attempted to be shown in the sketches annexed, (*figs. 16. and 17.*) slating and tiling may soon be covered with the ornamental and rich clothing of the grape



~~1800~~ In the winter pruning, take pieces of tin six or seven inches in length, (*fig. 16. a, b.*) the refuse of the tin-workers'

shops will do, and at convenient distances turn it over the shoot intended to remain, and thrust part of the two ends (*a a*) between the tiles or slates. The weight of the incumbent tile or slate, will be sufficient to keep the shoot in its place so as not to be disturbed by winds, (*fig. 17.*) I have



not observed this mode of fastening, in any garden before, although probably it may not be a new idea. It was the suggestion of a Mr. Wheeler of this town, a gentleman fond of horticultural pursuits, and I send it with the feeling, that "every little helps."

I am, Sir, &c.

JOHN LATHAM.

ART. XIX. *Ideas for a new Plan of breaking Tulips.* By
Mr. THOMAS HOGG, Florist, Paddington.

Sir,

AT the time you did me the favour to look in, and take a view of my carnations in flower, it escaped my recollection to mention to you the discovery of a new plan of breaking tulips, a matter in my opinion of no small importance to the cultivators of that flower. The merit of this invention does not rest with me; neither have I yet been able to prove its efficacy, by any trial of my own, having been in possession of it only since last May; but I can place the utmost reliance upon the unquestionable veracity of the gentleman who imparted it to me; and who does not wish to appear himself before the public, in the character of a florist; he performed the operation on some of my breeding tulips; from the view and nature of which, I am led to entertain the most sanguine hopes of success, and purpose to put it in yearly practice. The process, though simple and easily per-

formed, is at the same time extremely ingenious and scientific, and, I believe, perfectly agreeable to the laws of nature, by a reference to their particular operation and effect upon certain other subjects, both as regards plants and animals, though not perhaps on the same principle exactly. Nothing has wearied and exhausted a florist's patience more than the stubbornness of these breeders, which he puts in the ground year after year in hope, and digs up again in disappointment.

All the means and contrivances, that could be well devised, have been resorted to, for years in Holland, France, and Flanders, as well as here, to effect this desired object, but with very little or no success; such as change of air and situation; the use and change of different kinds of soils, &c. Some breeders, it is well known, have been planted for twenty years successively, and have evinced no change. Now then, if a plain single colour is natural and peculiar to the tulip, on its first production from seed; and if its variegation is the effect of disease, as some naturalists contend, without explaining the cause; which disease, though it impairs not the health, yet adds to its beauty; the merit and the object of this newly-discovered process is, to impart that disease or variegation to the tulip with a certainty, which before was the effect merely of chance. I am not prepared to contend, that the black-amoor's skin can be changed in one dip, as it were by enchantment, or other miraculous power; or that it will be completely changed by a single application, which can only take place once a year, when the tulips are in flower; but I have no hesitation in saying, according to my friend's testimony, that the plain self colour of the cup will be shaken the first year, and the appearance of streaks, and variegation taking place will be fully manifest thereon. On the second and third year you will have a right to expect, that the finely variegated tulip, perfect in all its lines, streaks and feathered bordering, will present itself to your view. This plan likewise claims the faculty of restoring foul flowers to their true colours.

I have also further to observe, on the statement of this gentleman, who has confided to me the secret, to make what use I please of it, and which he hit upon two years ago last May, that he has broken more tulips into colour, in this short space of time, than he has done in thirty years before; during which long period he has been an ardent cultivator of this bewitching flower; and though his pursuit of the "fancy" had never languished, yet he finds, that this lucky incident has given to it additional interest and incitement;

this very circumstance, indeed, brought him to London, in search of some of those choice and difficult breeders, which seldom fail to produce good flowers, when they do break, "to try his hand upon;" such as the Rubens, Trafalgar, Louis, Charbonier, Joie de Davey, Catafalque, Camuse, Ponçeau, &c. My chief object in addressing this letter to you, is, to request, that you will give it publicity in that very excellent work of yours, the *Gardener's Magazine*, for I have no wish to confine this discovery to myself, but am ready to disclose it to any one; observing moreover, that one practical lesson is worth two printed ones; yet the printed one can easily be learned and put in practice by any person, who knows the different parts of fructification belonging to a flower. I confess, I am slow to place much faith in the "miraculous" at any time, nor am I easily led away by absurd and new-fangled notions, which have no foundation either in truth or reason; yet in this case, I am free to admit, that I cannot withhold my belief, but that this plan will fully answer the purpose intended; and that it appears to me, upon the whole, the most plausible, rational, and scientific ever yet adopted.

I am, Sir, &c.

THOMAS HOGG.

Paddington, September 20th, 1826.

Fecundating the stigma of a healthy or unbroken flower with the pollen of a diseased or variegated one, may probably communicate the disease or variegation to the parent as well as to the offspring, and, if so, the application of this principle to the breaking of tulips, or the variegation of other flowers, may be considered as highly scientific. A bud from a variegated jasmin or privet inserted in a healthy plant of the same kind, will communicate variegation to the whole plant; and the same thing will probably hold good in many plants both ligneous and herbaceous. Mr. Hogg, however, has not told us in what way he proposes to inoculate the required disease. In Gordon's *Dictionary of Gardening*, (Art. Apple-tree, p. 10.) it is stated that variegation may be produced in any kind of tree by the following method: "Let a servant, day by day, lay some quantity of corn or small pieces of bread round the stem of the tree, and in two or three days you will have as fine variegation, and as lasting, as many of these boasted varieties." It will be taken for granted that we have no faith in Gordon's doctrine. — *Cond.*

ART. XX. *On Propagating the Balsam by Cuttings.* By
G. W. B.

Sir,

IN consequence of your general invitation for communications on subjects connected with the object of your very valuable Journal, I take the opportunity of submitting the following, which I shall feel greatly flattered by seeing in your work, if you think it worth a corner.

At the time I was piping my pinks last season, I had some pots of balsams which were of very fine sorts, and the idea struck me, that they might be propagated in the same way, which I directly tried, and in a short time, was much pleased at finding they succeeded. I have had the gratification of seeing several pots of them so raised in bloom, and at the present moment have some, the blooms of which are remarkably double, and as large as a crown piece.

I have a fresh stock just piped, and flatter myself with the prospect of enjoying the sight of their carnation-like flowers through the winter.

I cannot with certainty lay claim to originality in the discovery, being but young in the *fancy*; but if I may believe what experienced persons say, I certainly am the *first* who have accomplished the thing.

I shall be gratified by knowing whether or not, any of your correspondents have been aware of the practicability of this way of raising the balsam, and if they have tried it, &c.

I am, Sir, &c.

G. W. B.

London, Kennington, Sept. 26th, 1826.

ART. XXI. *On the Mode of growing Early Potatoes in the North of Lancashire.* By Mr. MATHIAS SAUL of Lancaster.

Sir,

IN Vol. i. p. 405., you give an account of the culture of early potatoes, as practised in the south of Lancashire; the following is the mode adopted in the north of our county. It was furnished me by Mr. Green, of Bear Park, an extensive cultivator. Put the potatoes in a room, or other convenient warm place; about the 2nd of February cover them with a woollen cloth for about four weeks, then take it off, and by so

doing you will make the sprouts much stronger. Towards the latter end of March, set them, covering the sprouts about two inches deep. If the sprouts be about two inches long when set, the potatoes will be ready in seven or eight weeks afterwards.

Another friend of mine, who has got a green-house, adopts the following plan. He places the potatoes in the green-house, in turf mould, or peat earth, in the beginning of February, and keeps them well moistened with water; he plants them in the open air about the end of March, on a warm border, leaving about half an inch of the points of the sprouts above the ground, and protects them during nights by coverings of mats. By this plan he is able to have new potatoes about the beginning of May. It is considered a very material thing to get the potatoes well sprouted before they are planted.

I am, Sir, &c.

M. SAUL.

Silkyard Street, Lancaster, Nov. 4. 1826.

P. S. — In July last, it was feared that the winter potatoes would be a bad crop, on account of the dryness of the season, and this induced many to plant a second crop in August; notwithstanding the lateness, this second crop has produced a more abundant crop than the first. Many planted them merely as an experiment, to see whether it would answer to plant potatoes in August or not, and the trial has proved that they will answer very well.

M. S.

This being an important subject for all who possess small gardens, and especially for cottagers, we invite as many of our readers as conveniently can, to consider this paper in connection with that of R. W., and make such trials as suggest themselves, and as circumstances will permit. Mr. S. says nothing about the kind of early potatoe used, or the mode of cutting the sets. But, in the mean time, every one may try an experiment with the best variety of early potato that is to be found in his neighbourhood, and follow the directions of R. W. in respect to the sets. In some parts of Scotland, it is customary in preparing the sets both of early and late potatoes, to begin by cutting off and throwing aside for the pigs the two extremities of the potatoe: that full of buds as being apt to run too much to haulm, and the root-end, or that in which there are none. — *Cond.*

ART. XXII. *Results of an Experiment to destroy the Aphis Lanigera, or American Blight on Fruit Trees.* By Mr. JOHN ADAMS, Gardener at Apley Castle, Shropshire.

Sir,

HAVING read in Vol. I. p. 388. of the *Gardener's Magazine* of an unsuccessful attempt to arrest the ravages of the woolly Aphis, by T. C. Huddleston, Esq., I send you the following account of an experiment I made on an apple tree which was much infested with the woolly aphis. This tree I had headed down and re-grafted last spring; in June I went to cut off the superfluous shoots, when I found the wounds and most of the young shoots covered with the insect, and instead of healing, the wounds were very cankerous round the edges. I had tried tobacco water, and a liquor that will destroy the pine bug, without success. (A painter being at work here) I thought of trying spirits of turpentine, which I immediately applied with a small brush, (well rubbing it on where I could see any sign of the insect,) with complete success. I have frequently examined the tree since, and cannot perceive any insect, and the wounds are fast healing over. If you consider this account worth insertion in the *Gardener's Magazine*, it is much at your service. I am, Sir, &c.

JOHN ADAMS.

Apley Castle, near Wellington, Shropshire,
Nov. 8th, 1826.

ART. XXIII. *On the Destruction of the Aphis Lanigera, or American Blight on Apple Trees.* By A. W.

Sir,

IN Vol. I. p. 388. of your truly valuable Magazine, I observe a letter from T. C. Huddleston, Esq., relative to an unsuccessful attempt to destroy the Aphis lanigera, or American blight; and as I have formerly been very much troubled with the same insect, but am now, I flatter myself, quite master of it, I take the liberty to address a few lines to you upon the subject.

In the year 1824, I planted upwards of fifty choice sorts of apple trees, and in the same autumn they were infested with the above-mentioned insect. I immediately set about cleaning them with what I then thought the most efficacious means; namely, lime-water and soft soap; but in the summer follow-

ing, they were much worse than in the preceding season : some of the branches were quite covered with the insect. Therefore, finding the liquid that I had dressed them with of no avail whatever, unless I except the good done by continually brushing them, I applied strong old urine to all the trees, with a soft brush, and I can positively say, it has had the desired effect in every sense of the word ; for the trees are now, and have been all this summer, as clean and healthy as I can wish them to be. If the urine is used in a fresh state, it will not answer so well as if it were two or three months old, and kept in a body of fifteen or twenty gallons. After brushing the trees, if I have any of the liquid to spare, I take a syringe and sprinkle the trees all over. By attending to the above method, there is very little difficulty in completely eradicating the destructive insect your correspondent complains of. A cheaper remedy it is almost impossible to find. On large old trees, where the bark is rough, of course the labour is much greater than on small or middling sized trees, but even then it need not be despaired of. If you think this worth a place in your Magazine, I shall feel proud in contributing my mite to so useful a work. I am, Sir, &c.

A. W.

Near Droitwich, Nov. 10th, 1826.

Since the above was printed, we have received some other communications on the same subject: Mr. James Brown of York has used tobacco water; R. S. T. soot and salt in equal quantities; and Mr. James Gibson, Hampstead, the Chelsea apple powder, the principal ingredient in which appears to be soot, with perfect success. — *Cond.*

“A gentleman from Upper Canada, one of the most distinguished individuals in that province, told me this summer of a remedy, which he said proved in that country completely effectual — soft soap. I applied it the latter end of June to some trees of mine which had been dreadfully infested for a long time, and on which I had previously tried various remedies. I laid it on with a brush, hot, and of the consistency of paint. The outer bark is since come off, and a fine healthy under surface appears. I have not seen the least appearance of the American blight since, and the trees have been thus far perfectly healthy.”

A SUFFOLK AMATEUR.

November 22. 1826.

PART II.

REVIEWS.

ART. I. *Essay on the beneficial Direction of Rural Expenditure.*
By ROBERT SLANEY, Esq.

(Continued from Vol. I. p. 186.)

IN considering the condition and character of the agricultural population of Great Britain, our first position was, that at present they can command a smaller portion of the necessaries of life than their ancestors could. This position we grounded on numerous and indisputable facts; and we particularly referred to a table of wages and prices, from the middle of the 13th to the beginning of the 17th century, which we inserted. We ought now, agreeably to our plan, to proceed to our second position, but previously we may be allowed to illustrate our first position by another table, borrowed from Sir Frederic Eden's History of the Poor.

We have dwelt thus long and particularly on this position, not merely in order to establish it firmly, but likewise, because by establishing it, we virtually refute a very prevalent but erroneous principle, which, so long as it is considered true, and consequently is acted upon, must be injurious to the amelioration of the condition of the poor.

This principle is, that wages depend on the price of provisions: if it were true, let us see what consequences and inferences would follow: first, that though the present agricultural population might not be better off, they could not possibly be worse off than their ancestors; because, wages rising proportionally with the price of provisions, the present race must have the command of the same quantity as their ancestors had. But the second inference is still more important: if wages, and the price of provisions, or, more strictly speaking, of corn, rise and fall together, of what advantage to the poor would be a low price of corn, and, therefore, how are they interested in the question of the Corn Laws? Let us grant that the free importation of wheat would reduce its

PRICE OF PROVISIONS.				PRICE OF LABOUR.			
				Value in present Money.	Daily Wages appointed 2 Hen. VII. A.D. 1495.		Value in present Money.
		£ s. d.	£ s. d.			£ s. d.	£ s. d.
1549. From 1500 to 1511. 1500.	Wheat, per Quarter	0 3 4	0 5 0½		A Mower, with diet	0 0 ½	0 0 5½
	Average of ditto.....	0 5 2½	0 8 0½		Ditto without.....	0 0 6	0 0 9½
	Average of Barley...	0 3 4	0 5 0½		A Reaper or Carter with diet.....	0 0 3	0 0 4½
	An Ox.....	0 11 8	0 18 0½		Ditto without.....	0 0 5	0 0 7½
	A Sheep.....	0 1 8	0 2 6½		Woman Labourer, or other Labourers, with diet.....	0 0 2½	0 0 3½
					Ditto without.....	0 0 4	0 0 6½
1561	A large Ox.....	1 6 8	1 16 9	No account of the Wages of Labour till 1575.			
	A Sheep.....	0 2 10	0 3 10½				
	Wheat, average.....	0 5 4	0 7 3½				
	Barley.....	0 2 4	0 3 2½				
1583	Beef and Mutton, per lb.....	0 0 0½	0 0 0½					748
1549	Best fat Wether.....	0 4 4	0 5 0½				
1550	Best Wheat.....	0 13 4	0 15 6½				
1560	Wheat {from	0 8 0	0 8 3½				
	{to	1 6 0	1 9 5½				
	Beef, per lb.....	0 0 1	0 0 1	0. 105			
1575	Wheat.....	1 0 0	1 0 8	Labourer without diet.....	0 0 8	0 0 8½	
1587	Wheat, from.....	1 0 0	1 0 8				
1589	Wheat {from	4 0 0	4 2 8	Thresher, ditto.....	0 0 8	0 0 8½	
	{to	0 18 6	0 19 1½				
	Barley.....	0 13 4	0 13 10½	Ditcher, with diet	0 0 4	0 0 4½	
	A Wether.....	0 6 8	0 6 10½	Thresher, without	0 0 6	0 0 6½	
1590	Sheep.....	0 6 8	0 6 10½	Labourer in a garden.....	0 0 3	0 0 3½	
	Wheat.....	1 1 0	1 1 8½	Ditto in an orchard	0 0 4	0 0 4½	
	Barley.....	0 13 4	0 13 10½	Thatcher.....	0 0 5	0 0 5½	
1593	Wheat, exportation price.....	1 0 0	1 0 8	Labourer in Yorkshire.			
	Barley.....	0 12 0	0 12 4½	Summer, with diet	0 0 2	0 0 2 0 2	
				without	0 0 5	0 0 5½	
				Winter, with diet	0 0 1½	0 0 1 0 1	
				without	0 0 4	0 0 4½ 2 8	
				In Chester.			
				Servant Carpenter, or Thatcher, with diet.....	0 0 1	0 0 1 0 1	
				Smith or Sawyer...	0 0 2	0 0 2 0 2	
1596	Wheat.....	2 2 0	2 3 4½	In Chester.			
	Rye.....	1 4 0	1 4 9½	The same as in 1593.			
	Beef, the stone.....	0 1 9	0 1 9½				
	A fat Wether.....	0 15 0	0 15 6				
1597	A fat Bullock.....	5 19 6	6 3 6				
	A fat Sheep.....	0 14 6	0 14 11½				
1598	Wheat.....	0 18 0	0 18 7½				
1599	Ditto.....	1 7 0	1 7 11				
1601	.....	.....	.....	Labourer, without diet.....	0 0 10	0 0 10 0 8	

price from 60s. a quarter to 40s., what would this signify to the labourer, if, with this fall in the price of wheat, his wages fell in the same proportion, or from 12s. to 8s. a week? would he not, in fact, be worse off with wheat at 40s. and his wages at 8s., than he had been with wheat at 60s. and his wages at 12s.? For, though we allow that a reduction in the price of wheat might reduce in the same proportion, not only his wages, but many things he was in the habit of purchasing, yet there are some highly-taxed articles in this country, to

which the labouring classes are accustomed, which could not fall in the same proportion as wheat and wages; and over them, therefore, he would possess a more limited command than he did before.

Before we revert from this apparent digression (though it is in reality a statement essentially connected with this part of our paper), we may further be allowed to point out in what manner the opponents of the Corn Laws beat out the brains of their own arguments, by dashing them one against the other. "Allow the free importation of corn," they cry out, "otherwise you cannot compete with foreigners in the market for manufactured goods." What does this imply? Certainly, that if the free importation of corn were allowed, its price would fall, consequently wages would fall, and your manufacturers would be able to sell their goods at a lower price! What else does it imply? Undoubtedly this, that the low rate of wages on the Continent is owing to the low price of corn there.

Now, let us turn to the other grand argument of the opponents of the Corn Laws. The price of corn, by these laws, they contend, being artificially kept much higher than it would be if free importation were permitted, it follows that the labourer is able to purchase less corn than he would if foreign corn were admitted. But what does this imply? Certainly, that the wages of the labourer would remain the same after free importation were permitted, and consequent low prices took place. And what further does this imply? That wages do not depend on the price of corn.

Allow the first argument to be good: cheap corn makes low wages; low wages enable the manufacturer to sell his goods cheaper; consequently the free importation of foreign corn would secure a market for our manufactures: but if this were the result — if wages fell proportionably to the fall in the price of corn — how could the condition of our labouring population be benefited by a repeal of the Corn Laws?

Again; allow the second argument to be good: free importation would benefit the labouring population by giving them corn at a cheaper rate: but wheat at 40s. the quarter is not cheaper to a labourer at 8s. a week, than wheat at 60s. to a labourer at 12s. a week. The labourer, therefore, before he can be benefited by cheap corn, must not have his wages dependent on the price of corn: but if the labourer is really benefited by having the same wages when wheat is at 40s. as he had when it was at 60s., how can the manufacturer

be benefited by a repeal of the Corn Laws, paying the same wages after their repeal as he did while they were in force? Hence it is quite clear, that if a repeal of the Corn Laws, and the consequent lowering of the price of corn, benefit the labourer, it must, for precisely the same reason, be of no service to the manufacturer; and, on the other hand, if the repeal be of service to the manufacturer, by lowering the rate of wages along with the price of corn, it can be of no benefit to the labourer whose wages are so lowered; or, more shortly, and in other words, it is impossible that the same measure should benefit both the payer and receiver of wages: the first is benefited in proportion as he pays little, the latter in proportion to the quantity he receives.

Our second position is, that the present agricultural population receive a smaller proportion of the produce of their labour than their ancestors did. This position may easily and shortly be made out.

It follows, indeed, in some respect, but not to its fullest extent, from the first position; for it is obvious, that if the wages of the agricultural population command a less quantity of wheat at present than they did a century or two centuries ago, they must command a smaller proportion of the produce of their labour than they did a century or two centuries ago, unless we suppose that the produce of their labour has diminished in the same ratio as their wages. The contrary, however, is the fact; the produce of land per acre, so far from having fallen off, is greatly increased: even supposing, therefore, that wages had not been lowered, still, the produce being increased, the ratio of wages to the produce of labour must be diminished. Hence it follows, as, on the one hand, wages are lower, and the produce of labour is greater, the proportional diminution of wages to the produce of labour must be greater than it would have been, either by the single circumstance of lower wages and the same produce, or the same wages with greater produce; the ratio of diminution being in fact compounded of the ratio of lower wages and of larger produce.

Perhaps, however, we shall render our meaning more clear and intelligible by a supposed case. Let us, then, suppose that in the sixteenth century a week's labour would command four bushels of wheat, and that the produce per acre was then twelve bushels; it is evident that at this period a week's labour gave the labourer one-third of the produce of an acre: whereas, if he were obliged to work, in the 18th or

19th century, two weeks to obtain four bushels, the same quantity of labour could purchase only one-sixth of the produce of his labour, supposing the produce per acre to be stationary at twelve bushels. But, supposing the produce per acre to have increased to twenty-four bushels, while the wages of two weeks were necessary to purchase four bushels, it is plain, that as this would be at the rate of two bushels for one week, the proportion of the produce of his labour gained by the labourer of the 18th or 19th century would be only as one to twenty-four, whereas in the fifteenth century it was as one to three.

There is still another point of view in which this position may be put, in order to render its truth clearly seen. Two centuries ago, much agricultural labour was spent in raising rye, barley, and other inferior grain, on land which at present produces large crops of excellent wheat. Here, then, is more valuable produce from labour paid at a lower rate than when the produce was less worth.

It is scarcely necessary to enter on any details, in order to prove that the produce per acre is much increased throughout Great Britain during the last hundred years, that is, during the period that has witnessed a decreasing command of the wages of agricultural labour over the necessities of life. And it is almost as little necessary to go into details, to prove that the inferior paid labourer of the present day raises by his labour the most valuable kind of grain, from land on which the better paid labourer of the 15th or 16th century worked to produce only rye or barley.

On these points we shall content ourselves with the following quotation from one of the three very important and interesting pamphlets recently published, respecting agricultural labourers, by the Reverend C. D. Brereton, rector of Little Massingham, Norfolk.

“ Before the Reformation, it is probable that the average production per acre, of all kinds of grain, did not exceed 12 bushels. From the Reformation to the Revolution husbandry improved, and the produce greatly increased. By modern improvement the production has in many parts been doubled since the Revolution. An augmented production requires of course an increase of manual labour. This village, which contains only 20 cottages, produces, I suppose, 4000 quarters of corn, and the two villages of Great and Little Massingham not less than 10,000 quarters.

“ The quantity of employment has also been greatly increased by the extended growth of wheat in this county. It is generally stated that the expence in manual labour of cultivating and

bringing to market an acre of wheat is nearly double that of an acre of other corn. This change in husbandry affects in a remarkable degree the means of employment. The general consumption of wheaten bread was unknown among the working classes till the middle of the last century. In the history of Norwich, it is recorded among the remarkable events, that 'in 1745 fine flour, from Hertfordshire, was retailed in Norwich, before which time a coarse household bread, inferior to meal, was the general bread used in the city and county.' Barley bread was till that time as common as it is now in some parts of Wales. Till that period, scarcely any wheat was grown in this part of the country. Within the last thirty years not more than 30 or 40 acres of wheat were grown in this parish, and now there are between 300 and 400 acres. The growth of this corn favourably affects the condition of the peasantry, by supplying a large quantity of gleanings as well as work. The thirty families belonging to this parish have the gleanings of three or four hundred acres of wheat, and many of the families collect from 8 to 12 and even 16 bushels. The earnings of the women and children by this means have often amounted to more than the earnings of the labourer himself in harvest, when his wages are the highest. Since the commencement of the present century, the increased production of wheat has been enormous. The number of quarters returned to the Inspector of Corn Returns for Norwich, for the first 21 years of this century, will demonstrate this. In 1801 there were returned 17,159 quarters; in 1814, 34,007, or double that quantity; and in 1821, 78,219, or more than four-fold the number of quarters."

That the condition of agricultural labourers at present, as compared with that of manufacturing labourers, is much worse than it was one or two centuries ago, will not, we think, be disputed by any one. The simple and obvious facts of the great and rapid increase of our manufactures; of the immense capital at present employed in them, whereas a century ago, there was little or no capital employed in any besides the woollen manufacture; and the dense and numerous population of the manufacturing districts of Lancashire, and the West Riding of Yorkshire; districts naturally barren, and formerly thinly peopled;—these and other facts indicate or imply a wonderful stimulus given to our manufactures; and, consequently, as one consequence of that stimulus, such an increase of wages as would attract, and has, in reality, attracted to the manufacturing districts, the population with which they at present abound. It is no reply to this position, to appeal to the fact, that manufacturing wages are liable to great and sudden fluctuations, and that, sometimes, they are extremely low: they are so; but, taking an average of three, four, or five

years, the rate of the wages of a manufacturing labourer, with all its fluctuations, will be found very much above the average rate of an agricultural labourer during the same period.

Our last position, that while rents and the value of land have been increasing, and the country and all other classes improving, the condition of the agricultural labourer has been retrograding, it is equally unnecessary to make out by direct and elaborate detail. We have proved that the present wages of the agricultural labourer give him the command of a smaller portion of the necessaries of life than his ancestors possessed one or two centuries ago; and thus we have proved that *he* has been retrograding. Of what other class of society can this be proved? Of what other class can it even be proved that they have been stationary during the last two centuries? Of what other class can it *not* be proved that they have been advancing; that they have the command of comforts or luxuries unknown or inaccessible to their ancestors?

The real and effective wages of agricultural labour have fallen within these two centuries. Is not the case of rents and the price of land notoriously the reverse of this? The agricultural labourer at present obtains a smaller proportion of the produce of his labour than ~~he~~ he did two centuries ago: though an acre of land that he tills produces twenty-four bushels instead of twelve, or wheat instead of barley or rye, he is not benefited by this greater or this more valuable produce. What is the case with the landlord? If his land, which formerly produced twelve now produces twenty-four bushels, or which formerly produced barley or rye now produces wheat, do not his rents increase, at least in an equal proportion with the increased value of the produce? Contrast the dwellings, dress, mode of living, fortunes, &c. of the farmers of the present day with what they were one or two centuries ago; and see what a change for the better! Compare the dwellings, food, and general condition of the agricultural labourer of the present and former days, and see what a falling off has taken place!

Contrast the immense wealth of the country at present, as exhibited in all that can administer to the necessaries, comforts, and luxuries of life, with its wealth two centuries ago; all allow a most extraordinary increase; but among whom has this increase been distributed? A small portion, a very small portion, indeed, among the agricultural labourers: though they have contributed their share to its creation, verv

little comes to them ; whereas every other class, even many classes that have not in reality contributed to this increase, are partakers of it, in a greater or less degree.

It is instructive and interesting to have the living means of comparing past times with present : a person a century old, who retains the opinions, manners, and dress of his youth, enables us to form a better judgment of the change that has taken place in these respects than any record can do ; it is as if our ancestors were placed before us. So, if we wish to have the best means of estimating the advances of the country during the last century, let us first look around us, at the land, roads, towns, houses, inside and out, manufactures, food, dress, comforts, and luxuries of all classes *except one* ;— all these have advanced with the improving age ; this one alone is stationary. The improving spirit of the age has shed its influence over all classes except one ; on that one it has fallen powerless. Is not this an extraordinary fact, well worth enquiring into, not merely for its extraordinary nature, but much more deserving of investigation when we reflect, that it relates to the condition of a very numerous, and certainly the most valuable part of our population ?

But is it a solitary fact ? Is it not connected with another fact, of a still more alarming description ? Has there not been a falling off in the character, as well as in the condition of our agricultural labourers ? That this has been the case, we will attempt to show in our next Number.

ART. II. *Le Bon Jardinier, pour l'Année 1826, contenant les Principes généraux de Culture ; l'Indication, Mois par Mois, des Travaux à faire dans les Jardins, &c.* By A. POITEAU, principal Editor ; senior Head Gardener of the Royal Nurseries at Versailles ; Botanist to the King ; Director of the Royal Habitations of Guiana ; Author of the Natural History of the Orange ; — And Vilmorin Seedsman to the King ; Member of several Societies. Paris, 12mo. 2 Plates. 27th Edition.

THIS work, which contains both a calendar and a dictionary of culture, must be of great use to the landed proprietors of France, and to the few gardeners in that country who rank above common labourers. It appears annually, with a new title, and a few pages in the way of a review of the horticultural improvements of the past year. The body of the work in this edition is stated to have undergone considerable improvement by

the present editors, who are practical men of established reputation.

M. Poiteau, who edits the *Bon Jardinier* for the first time, informs us, that, after having gone through and practised almost every branch of culture, he has arrived at that age at which a man finds out, "*qu'il ne sait pas grand chose*," how very little he knows, and he will, therefore, be very thankful for any information that may be offered him, with a view of rendering the *Bon Jardinier* more perfect. After some cavilling at the rival works "*L'Annuaire du Jardinier et de l'Agronome*," and "*Manuel du Jardinier*," he commences with an account of the principal nurseries about Paris.

The establishment of M. Cels at Mont-Rouge originated in 1787, by M. Cels, senior, who was succeeded by his son, the present proprietor, in 1808. It is a nursery both of rare plants and expert gardeners. M. Louis Noisette established his nursery in 1802: pupils from his garden are spread over every part of the world. In 1822, M. Soulange-Bodin, of Fromont, on the road to Fontainebleau, transformed his garden into an extensive and rich nursery; he had long been collecting plants as an amateur, with the intention of one day devoting himself to their propagation for the purposes of commerce, and he has now realised his project. About 1812, M. Noël began to expose in the *Marché-aux-fleurs*, the finest sorts of roses worked on tall stems of briar. The process was known before, but M. Noël brought it to a high degree of perfection, and has since continued a principal cultivator of roses. In 1813, M. Fion began to devote himself to the culture of orange trees by planting a row of them against a wall, which has succeeded perfectly, and is one of the finest things of the kind near Paris. This cultivator has a very complete collection of the species and varieties of the genus *citrus*. About 1816, M. Lemon began to spread a taste in Paris for the finer sorts of geraniums, and his stand in the flower-market continues to be distinguished by a display of these flowers.

Respecting rare and curious plants, it was not till 1798 that the *hydrangia* (*l'hortensia*) began to be cultivated in the open air by M. Audibert. This cultivator purchased two plants for twelve francs from Mr. Williams at Sèvres, who had introduced it ten years before; he planted them in peat, first in the bed of a conservatory, and afterwards in a shady border in the open air, and the following year he was rewarded by their producing heads of flowers from twenty inches to two

feet in circumference. The plant then became fashionable, was much run upon, and might have made the fortune of M. Audibert; but he only gained about 20,000 francs. (883*l.* 6*s.* 8*d.*) From 1818 to the present day might be seen at M. Ledin Morgor, of Fontenay aux Roses, the *Laurustinus* (laurier-tin) grafted on the way-faring tree (la mansienne), at ten feet from the ground, and the common and white broom grafted in a similar manner on the laburnum. The garden of M. Ledin contains many curious things, which prove that the master is an enlightened amateur.

The *Rhododendron arboreum* flowered in 1825 for the first time, in the garden of M. Boursault in Paris, where also *Glycine sinensis*, and the two varieties of *Azalea indica*, *formosa*, and *venusta*, the white and purple flowering, have flowered freely. *Acacia semperflorens*, in the garden of M. S. Bodin, at three years from the seed, was seven feet high, and covered with flowers; it is a singularly elegant plant, and supposed to differ from the species which passes by the same name in the nurseries. *Æsculus discolor* has flowered beautifully, and produced fruit. *Melastoma malabathrica* has flowered with M. Cels; it is the most beautiful of the melastomas, by the grandeur and brilliant colour of its flowers. In July, 1825, *Plumieria rubra* and *Cryptolepis reticulata* flowered in the Jardin des Plantes; the latter for the first time. Since 1820, *Crinum amabile* has flowered there annually. In January, 1826, *Carolinea princeps* flowered in the conservatory of the Duke of Orleans: the plant is remarkable for the glaucous colour of its branches, and the size of its flowers, which are from ten to twelve inches in diameter, with petals red without and blush within. This plant was formerly confounded with *Pachira aquatica*. The latter grows in the island of Cayenne; and the former in Guiana and Surinam, where its kernels are eatable; and M. Poiteau assures us from personal experience, that forty of them will make a meal for a botanist, while traversing the immense deserts and forests of that country.

In the summer of 1825, *Dichorisandra thyrsiflora* flowered in the greenhouse of M. Noisette: it is nearly allied to *Commelina* and *Tradescantia*, grows two feet high, and is terminated by a panicle of magnificent blue flowers. *Dracæna umbraculifera* also flowered in the same garden. In October, 1825, *Doryanthes excelsa*, a plant nearly allied to *Amaryllis*, began to send up its flower stem, which, on the 15th of January following, was fourteen feet high, nearly as thick as the wrist, and covered with some thousands of flowers, of the most vivid crimson.

Magnolia Thomsoniana flowered in the garden of M. Godefroy, at Ville-d'Avray, near Paris : *Astrapæa Wallichii* in the garden of the Duke of Orleans ; and the *Cactus truncatus* in great luxuriance with M. Lemon the florist.

M. Richard, a watchmaker, sent to M. Poiteau a sprig of double yellow gilliflower, four feet long. The Botanical Society of Ghent are promised a double-yellow pæony from America.

The yellow Chinese rose, which M. Poiteau calls a sub-variety of the tea-scented, (our *R. odorata*,) has flowered with M. Cels ; the *Anemone arborea* has also flowered with the same cultivator ; its flowers come nearest those of *Pulsatilla*.

M. Poiteau has heard of a strange plant having been discovered in the isle of Noussa Kambangang, with flower buds as large as a cabbage, and the flower when expanded two feet in diameter. He says, " It is probably the same plant that Mr. R. Brown has described and figured in the Transactions of the Linnean Society of London, under the name of *Rafflesia Arnoldi*, and which we are induced to consider as a species of fungus, notwithstanding the opinion of that learned botanist." Though our brother Poiteau feels that in gardening " il ne sait pas grand chose," it would appear he has that sentiment yet to experience in Botany.

We are not a little surprised at being informed by M. Poiteau, that the fan-mode of training the peach is likely to be superseded in the gardens of France, and especially in those of Montreuil, by the horizontal method, (figures to 26th edit. pl. 17., and *Encyc. of Gard.* § 4458.) or what the French call " *taille à la Forsyth*," from Mr. Forsyth's treatise on Fruit-trees, but which the author of that work only intended to apply to apples, pears, and cherries. Some receipts for killing worms are quoted, from which it would appear that M. Poiteau, like many British gardeners, is not aware that this may be most effectually, easily, and cheaply accomplished by the use of lime-water.

We have elsewhere noticed the directions for deterring mice, by putting leaves of water-cress in their holes ; rats, by bruised leaves of *cynoglossum officinale* ; and moles, by some cloves of garlick. If these vermin have other resources, they may probably shun these smells for a short time ; but nothing of this sort can ever be considered an effectual preservative against them. No starving animal will be deterred from seeking its food by a smell. — A new recipe for preparing verjuice next occurs, which we will give under Domestic Economy.

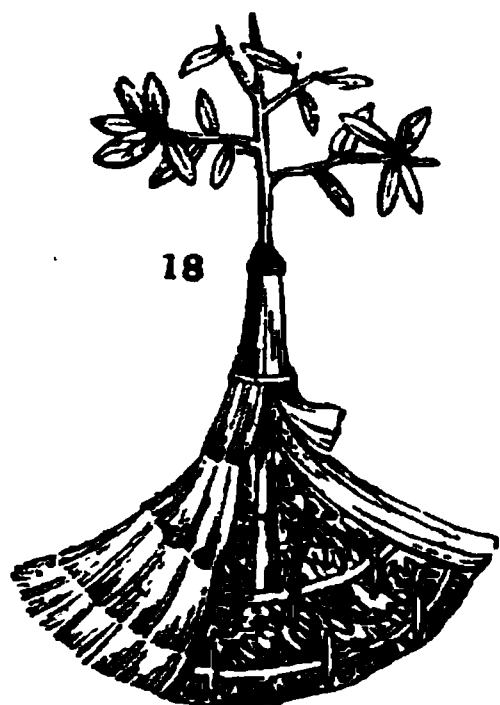
M. Poiteau asks, why gardeners do not adopt generally the practice of germinating seeds before they sow them? The advantages are, that they rise more quickly, and are consequently less exposed to the ravages of insects, and being choked by weeds; future hoeings also become less numerous and expensive. M. Poiteau's practice in his younger days was as follows:—the seeds to be sown were put in small linen bags, which, being tied, were plunged into lukewarm water for four or five hours; the bags were then suspended for one night in a chimney, where but a very moderate fire was kept: on the following morning, seeds of lettuces and radishes were germinated. More slow growing seeds, after having been steeped one day, were kept in a humid lukewarm atmosphere for several days; that is, they were malted till the radicle began to protrude. By this process, parsley, which, sown in the ground without preparation, lies dormant for four or five weeks, rises in four days. Steeped in a weak solution of muriate of lime, or in water in which a few drops of muriatic acid have been mingled, seeds germinate and rise still quicker. M. Poiteau goes farther, and, applying the same principle to cookery, asks, why, since germination developes sugar, as in the malting of barley, we do not malt or germinate peas, beans, kidney-beans, &c. before cooking them?

M. Van Mons of Brussels occupied himself upwards of thirty years in sowing seeds of fruit-trees, with a view to obtain new and superior varieties. In 1823 he published a catalogue, in which he explained his method of proceeding, which is thus given by M. Poiteau:—in sowing the seeds of kernel fruits for new varieties, after the plants have come up and grown a year or two, it is common to select for preservation, with a view to fruiting, such as have few or no spines, large leaves, and thick shoots; such plants, especially among pear seedlings, for the most part produce summer fruits of a small size and little flavour. M. Van Mons, on the contrary, chooses thorny plants, in which the spines are long, and furnished with buds to their summit, and of which the general aspect of the plant recalls to mind some good known variety. When these plants bear fruit, he sows their seeds, and again the seeds of the fruit so produced to the 4th, 5th, and 6th generation. The peach and apricot sown in this manner have not produced excellent fruit till the third generation, the apple till the fourth generation, and the pear till the fifth or sixth generation. It is to be observed, that out of each generation a choice of plants is made on the same principles as out of the first. A good kind being got, may be increased

by suckers, or pieces of the root, or by layers, any of which modes M. Van Mons considers preferable to grafting. He remarks, that the best varieties throw up the fewest suckers.

Two new gourds, *courge d'Italie*, and *courge de Valparaiso*, (gourd of the Vale of Paradise, our vegetable marrow,) have been cultivated in the Royal Gardens; and Madame Adanson, in her "*Maison de Campagne*," gives directions for cooking them before the seeds are full grown, otherwise the fruit becomes fibrous and coriaceous.

M. Boursault has, in his beautiful garden, large standards of *Magnolia grandiflora*, and having found by experience that when this plant is killed by frost, it is by the alternate thawing and congelation of the ground and the lower part of the stem, he therefore mulches and thatches, &c. (*fig. 18.*) which keeps out both frost and rain.



The culture of *Tetragonia expansa* begins to spread in the neighbourhood of Paris. Mr. Way preserves carrots by placing them in a cask, with alternate layers of sand, and then closes them hermetically, placing the cask in a dry cellar. The carrots are taken up for this purpose in August, and when taken out for use in the following spring, are found of a much

more delicate flavour than those which have not been dug up till September or October.

Another cultivator cut off the leaves of his carrots twice during the summer, and yet found that the roots were larger and better than such as had their leaves left on; but this, as M. Poiteau remarks, is contrary to reason and experience.

The New Zealand flax, *Phormium tenax*, has ripened seeds at Cherbourg and Toulon, and hence it is conjectured may be cultivated in a great part of France.

Notice is taken of the treatise on heating hot-houses by steam, by Mr. Bailey, (*Gard. Mag.* Vol. I. p. 197.) of this engineer's operations at Messrs. Loddiges', and at Mr. Gray's of Harringay, in England, and at the villa of Mr. Caters-de-Wolf, near Antwerp; and due credit has been given to the Dutch, for having introduced the use of steam in heating hot-houses before the French.

M. Larminat, curator of the forest of Fontainebleau, has grafted about 10,000 of the Corsican pine, *Pinus Laricio*, on the Scotch pine, *Pinus sylvestris*. Every body knows, M.

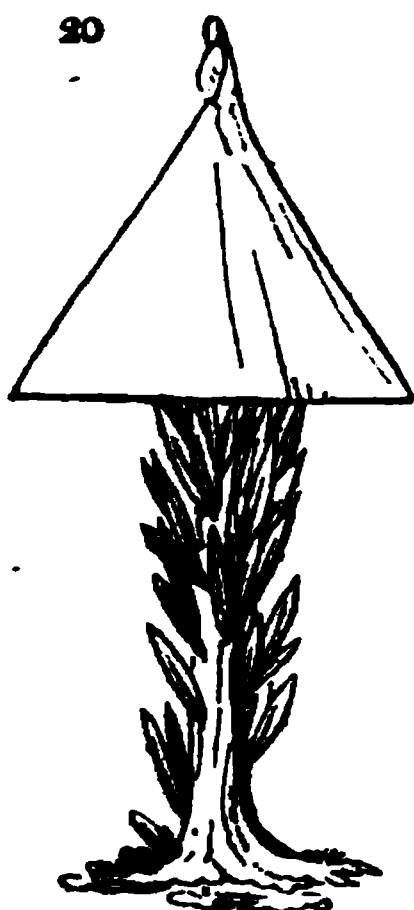
Poiteau observes, that the Corsican pine is much more valuable both for civil and naval architecture than any of those which grow naturally in France. The mode of grafting adopted by M. Larminat is that invented by the Baron de Tschudy, and called by the French herbaceous grafting (*greffe herbacée*), (*Encyc. of Gard.* 2022.) being performed with the current year's growth both of scion and stock. The result of M. Larminat's experience in grafting the pine and fir-tribe is as follows:—First, that *Pinus sylvestris* is the best stock for pines. *Pinus maritima*, or the Bourdeaux pine, was tried, but found inferior to the other. Second, that all the pines may be grafted the one on the other; the firs on the firs, the spruces on the spruces, and the larches on the larches; but that any one of these kinds grafted on any one of the others will not succeed. Third, that there is only a demi-analogy between the larch and the cedar of Lebanon, and that it is probable that the latter grafted on the former, notwithstanding the experience of M. Lefèvre, nurseryman at Nantz, will not produce large trees. Fourth, that the Baron de Tschudy had made the boundaries of the analogy too limited, by supposing that only pines with two leaves could be grafted on pines with two leaves, and those with three or five leaves with those of three or five leaves, because the Weymouth pine, *Pinus strobus*, which has five leaves, succeeds perfectly on the wild or Scotch pine, which has only two leaves. Fifth, that the Scotch pine should be grafted at the age of three or four years, and near the ground, that the future trunk may be homogeneous; and that the scion should be a lateral shoot, in order not to deprive the parent plant of its leader.

The proper time for grafting pines is when the young shoots have made about three quarters of their length, and are still so herbaceous as to break like a shoot of asparagus. The shoot of the stock is then broken off about two inches under its terminating bud; the leaves are stripped off from twenty to twenty-four lines down from the extremity, leaving, however, two

pairs of leaves opposite, and close to the section of fracture, which leaves are of great importance. The shoot is then split with a very thin knife between the two pairs of leaves, (*fig. 19. a.*) and to the depth of two inches; the scion is then pre-



pared (*b*): the lower part, being stripped of its leaves to the length of two inches, is cut, and inserted in the usual manner of cleft grafting. They may also be grafted in the lateral manner (*c*). The graft is tied with a slip of woollen, and a cap of paper (*fig. 20.*) is put over the whole to protect it from



the sun and rain. At the end of fifteen days this cap is removed, and the ligature at the end of a month; at that time also the two pairs of leaves (*a*) which have served as nurses are removed. The scions of those sorts of pines which make two growths in a season, or, as the technical phrase is, have a second sap, produce a shoot of five or six inches the first year; but those of only one sap, as the Corsican pine, Weymouth pine, &c. merely ripen the wood grown before grafting, and form a strong terminating bud, which in the following year produces a shoot of fifteen inches, or two feet.

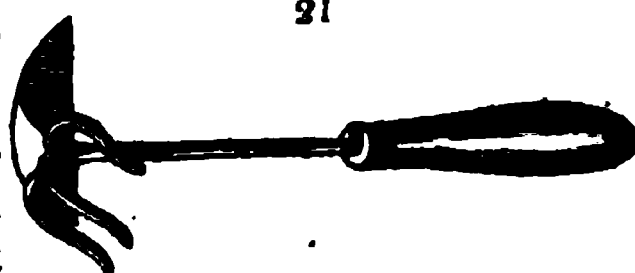
According to M. Poiteau, a scion from the lateral branch of any species of pine will produce a vertical shoot; but scions from the lateral branches of silver firs, spruces, larches, or cedars, will never produce a leading shoot; at least, he says, some such grafts have lived twenty years without doing so. That they will do so, there is abundant proofs: *e. g.* certain spruce firs at Zion House, and the larch on the lawn at Knowle in Kent.

A list of new plants offered for sale in 1825, by M. Cels, contains the following names, as yet rare in this country. *Acer oblongum*, *Celtis senegalensis*, *Cinchona floribunda*, *Dillenia scandens vera*, *Hellenia cœrulea*, *Philadelphus gracilis*, and two plants which we consider doubtful, *Arbutus sinensis* and *Hemerocallis coccinea*.

A similar list by M. Noisette contains *Fraxinus nepalensis*, the *F. floribunda* of Dr. Wallich, *Cactus napoleonis*, and *Citrus scandens*: the two last we never before heard of. These lists are most incorrectly written, and our London botanists doubt the legitimacy of some of the names; *e. g.* *Glycine macrophylla*.

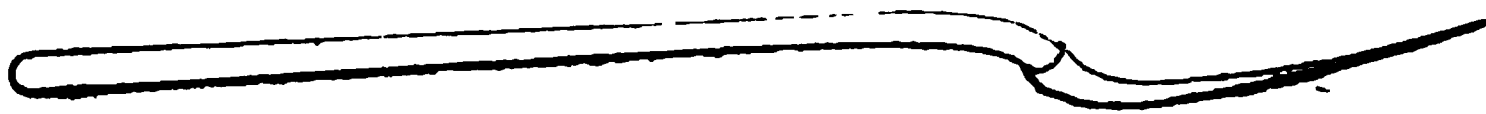
Two plates of new or rare implements are given, most of which are curious, but some of them useful.

Of tools there is the hoe-fork (*fig. 21.*); the bent-handled thrust

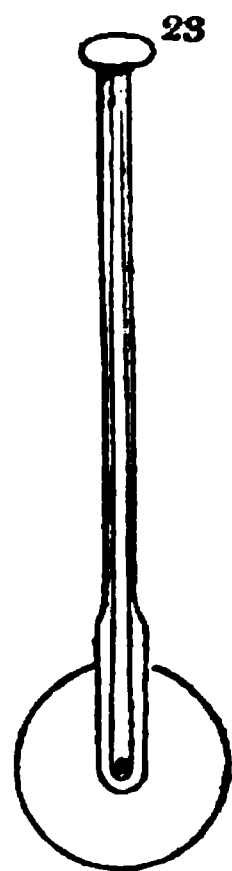
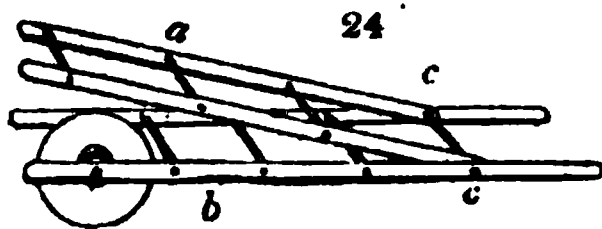


hoe; a Flemish spade (*fig. 22.*), used for throwing earth, and paring hard paths and alleys, and the transplanter already mentioned and figured, vol. i. p. 268.

22



Of instruments we may notice a wheel vergecutter (*coupe-gazon*) (*fig. 23.*), different descriptions of pincers, and secateurs, more adapted for the amateur than the practical gardener. There is a portable ladder (*fig. 24.*) which serves also as a wheelbarrow: half the ladder (*a*) may either remain on the barrow frame (*b*), where it will serve, by its pressure, to retain any rough bulky material; or it may be removed by withdrawing a bolt (*c c*). When used as a common ladder, it is eight feet long; when used as a step-ladder, the fourth step is three feet from the ground. A man standing on the third step, and holding with one hand by what forms the tram of the barrow (*b c*), may easily gather fruit with the other hand from a branch ten feet from the ground's surface.



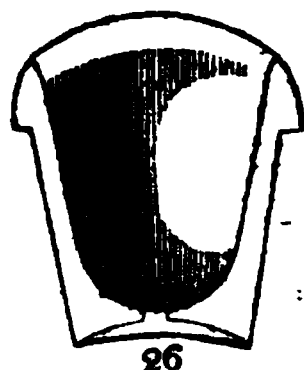
Among the utensils is a training basket (*panier à palisser*) (*fig. 25.*) made of willow, for holding nails, lists, hammer, &c.; it is placed before the operator, and tied or buckled behind. A flower-pot (*fig. 26.*) is formed



with a curved bottom, so as not to retain water. A naming-ticket (*fig. 27.*) is described as to be suspended to a branch by means of a brass wire, on which is a running knot, to prevent its compressing the bark.



Every thing new and excellent in the way of French instruments and implements of gardening may be seen or purchased chez MM. Arnheiter & Petit, rue Childebret, No. 13. Abbaye St. Germain, and chez M. Delarue, rue de Monceau-St.-Gervais. Amateurs may write to their friends in Paris to procure from these establishments a rose-gatherer, ringing scissors, or any other fanciful article.



Eggers' plan for cultivating the Truffle is noticed ; we have before (vol. i. p. 320.) reviewed the pamphlet, and shall revert to it in giving some " hints for experiments."

Having now gone through M. Poiteau's introductory review, we shall pause till some future number, when we shall look over the body of the work, and extract whatever we consider will be interesting to our readers ; and more especially any information not to be found in our Encyclopædias of Gardening and Agriculture ; or in the preceding numbers of this Magazine.

(*To be continued.*)

ART. III. 1. *Hortus Gramineus Woburnensis, or an Account of the Results of Experiments on the Produce and Nutritive Qualities of different Grasses and other Plants, used as the Food of the more valuable Domestic Animals, &c. &c.* By George Sinclair, F.L.S. F.H.S. &c.

2. *An Essay on the Weeds of Agriculture : with their common and Botanical Names, &c. &c.* Also Practical Remarks on their Destruction, &c. The Posthumous Work of B. Holdich, Esq. late Editor of the Farmer's Journal. Edited by George Sinclair, F.L.S. F.H.S., &c. Nurseryman.

WE are desirous of introducing the first of these works to our agricultural readers, as containing a vast quantity of original and important matter on a branch of agriculture very imperfectly understood by practical men. The high value which we set on the *Hortus Gramineus* is evinced by the copious extracts and frequent abridgments which we have made from it in our Encyclopædia of Agriculture.

Pasture grasses, like woods, cover naturally so large a portion of the earth's surface, and, when they are destroyed, so freely re-produce themselves, that their artificial propagation and culture was not had recourse to till a late period in the progress of agriculture. Grasses are the most universal of plants ; they exist in greater numbers than any other tribes, both in the coldest and in the hottest climates. In the two extremes of temperature the annual species are prevalent ; and in the milder regions, where the winters are short and the heat of summer not so great as to burn up all surface vegetation, the perennial species are most numerous. The pastures of the greater part of America and Russia, as well as of Egypt and Persia, are composed of the first ; and those of

Britain, and most of the small islands and sea-coasts of the temperate parts of both hemispheres, of the latter description. The prevailing grasses in Italy are perennials; but though the Romans improved their meadows and pastures by draining and manuring, it does not appear that they were in the practice of sowing any of the pasture grasses, though they were assiduous in their cultivation of lucern, clover, and other leguminous herbage plants.

It was not till about the middle of the 17th century, as we have elsewhere stated (*Encyc. of Agr.* § 5087.), that the culture of grasses for pasture and hay took place in England, and it is remarkable that the species first fixed upon is still considered the best for the purpose to which it was applied. We allude to the rye-grass, as a hay-grass for one crop.

The names of Eustace, Rocque, Stillingfleet, Anderson, Swayne, and Curtis bring down the history of grasses to the time of John, Duke of Bedford, and Mr. Sinclair. Of the unwearied labours of the latter for the greater part of the seventeen years he resided at Woburn, this very interesting volume is the result; and there can be no doubt it will serve to spread and perpetuate the improved mode of sowing lands for permanent pasture suggested, and to a certain extent commenced, by Stillingfleet, and which has since been gradually gaining ground among scientific agriculturists.

It is hardly possible to do justice to the author of a work of so much scientific research and careful experiment as the *Hortus Gramineus*. The labour of preparing it for the press, considerable as it must have been, is nothing when compared with the nice manipulation, the care and pains, and long continued application, that must have been necessary to conduct such an immense number of experiments, and to conduct them in such a manner as to obtain the approbation of Sir H. Davy. Sanctioned by this chemist, they may be considered as decisive; and, therefore, as far as the science of grasses can be advanced, and their culture improved from such experiments, those of Mr. Sinclair may be referred to with confidence, and need never be repeated.

To pursue the improvement of grasses farther, the next thing would be to try a field of each of the best sorts on different soils and in different climates, carefully comparing the results on a large, as Mr. Sinclair has done on a small scale. Another road to improvement, which might be tried, is the effects of cross fecundation on particular species and varieties, in Mr. Knight's manner. We should like to hear of some spirited individuals in different parts of the country, — say in

Devonshire, Norfolk, and East Lothian, — pursuing the first-mentioned improvement; the latter, we believe, is already taken in hand, to a certain extent, by a gentleman in Lincolnshire. (*E. of Ag.* § 5096.) In the meantime, the cultivator, in sowing lands to grass, which are to remain in that state for several years, will find his advantage in using a mixture of a greater number of sorts than has hitherto been done. Among the best species for this purpose are the *Festuca loliacea* (spiked fescue grass), *Poa fertilis* (fertile meadow grass), *Poa trivialis* (roughish meadow grass), *Alopecurus pratensis* (meadow fox-tail grass), *Lolium perenne* (perennial rye-grass), *Cynosurus cristatus* (crested dog's-tail grass), and *Anthoxanthum vernum* (sweet-scented vernal grass).

For a single crop of hay, with or without red clover, he will find nothing better than rye-grass, of which there are several varieties in cultivation; but the better of the perennial sorts are Pacey's, Russel's, and Whitworth's; of the annual, or rather biennial variety, there are no sub-varieties of any note. For two or three years' pasture, as part of a succession of crops on arable lands, rye-grass, cock's-foot grass, and common meadow grass, with white clover, will be found a good mixture. For lawns in pleasure-grounds, nothing can surpass the *Festuca ovina*, where it will grow and form a close carpet; but as it is a solitary grass, that is, without creeping roots, it is very apt to become thin on the surface, unless mixed with dog's-tail grass, sweet-scented vernal grass, and some others. In some situations, common rye-grass and common meadow grass will succeed better than more dwarf and finer-leaved species; and in close confined situations in towns, no grass will live any length of time excepting *Poa annua*.

Since this work was published, Mr. Sinclair has engaged in the nursery business, and, as our readers will recollect (see *Gard. Mag.* vol. i. p. 115.), has formed a grass garden in his nursery at New Cross. It is no small advantage for the public that they may examine all the principal grasses in this garden, consult the author as to the sorts best adapted for different soils and situations, and, by procuring them from the highly respectable firm with which he is connected, render him responsible for the result.

The work is divided into five sections, treating, 1. of the mode in which the experiments were conducted; 2. of the grasses and other plants which constitute the produce of the richest natural pastures; 3. of the grasses and other plants which are natural to dry, sandy, and elevated soils; 4. of the grasses which naturally grow in moist soils, or in bogs, lands

that are periodically overflown, and irrigated meadows; and, 5. of the different grasses and other plants adapted for the alternate husbandry. There are two appendixes: the first treating of the general impoverishing effects of plants to soils, of the mode of converting tillage land to permanent pasture by the process called transplanting turf, and a summary of the grasses adapted for the alternate husbandry: — the second, — of the grasses which afford the best culms for the manufacture of straw bonnets, in imitation of the celebrated Leghorn manufacture.

The plates are numerous, and exceedingly well executed by the lithographic process; the size of the page admits their delineation of such a magnitude as must render it easy for the commonest shepherd or ploughman to recognise them.

The Essay on Weeds is deserving the attention of the young farmer, to whom it is inscribed by the editor. The first chapter of this essay was perfected by Mr. Holdich, the rest was supplied by Mr. Sinclair.

The preface contains a short biography of Mr. Holdich, highly interesting, as displaying the progress of his mind, and the vicissitudes of his fortunes. He was the son of a farmer near Ely, moderately educated, but much attached to reading; spent seven years in America; wrote two comedies there; came to England, and farmed in his native parish until 1813; became editor of the *Farmer's Journal*, till the spring of 1824, when he died at the age of fifty-four, leaving various unfinished literary works, and a widow and family.

The term weed, as every gardener knows, is either absolute or relative: there is no plant that may not become a weed in the latter sense, by occupying a place not intended for it. The wheat is a weed among oats. Absolute weeds are such as docks and thistles, which are injurious in every cultivated field. By the weeds of agriculture we are here to understand the more common and injurious plants which infest arable and grass lands. The former are arranged as

1. Those which infest samples of corn; 2. root or fallow weeds, and such others as are hard to destroy; 3. those which are principally objectionable as they encumber the soil; 4. underling weeds, such as never rise with the crop, nor come into the sickle. Under these heads, each weed in its respective division is treated of as to its deteriorating qualities and mode of destruction.

The weeds which infest the sample are,

1. Darnel (*Bromus secalinus*); 2. Cockle (*Agrostemma githago*); 3. Tares (*Eryum tetraspermum*); 4. Melilot (*Trifolium melilotus officinale*); 5. Wild oats (*Avena fatua*); 6. Hariff (*Galium aparine*); 7. Crow needles (*Scandix pecten veneris*); 8. Black bindweed (*Polygonum convolvulus*); 9. Snake

weed (*Polygonum lapathifolium*); 10. Charlock seeds, in barley sometimes (*Sinapis*, *Raphanus*, and *Brassica*).

Weeds which are principally objectionable as they encumber the soil are,

1. Charlock, a name which is applied to four different species of Cruciferae (viz. *Sinapis arvensis* and *nigra*, *Raphanus raphanistrum*, and *Brassica napus*); 2. Corn poppy (*Papaver rhoeas*); 3. Blue bottle (*Centaurea cyanus*); 4. Mayweed (*Anthemis cotula*); and 5. Corn marigold (*Chrysanthemum segetum*).

The weeds called underlings, or such as never rise in the crop, are,

1. Groundsel (*Senecio vulgaris*); 2. Annual meadow grass (*Poa annua*); 3. Chickweed (*Stellaria media*); 4. Shepherd's purse (*Thlapsi bursa pastoris*); 5. Spurry (*Spergula arvensis*); 6. Camomile (*Matricaria Chamomilla*); 7. Fat hen (*Chenopodium album*); 8. Common corn salad (*Fedia olitoria*); 9. Flix-weed (*Sisymbrium Sophia*); 10. Common fumitory (*Fumaria officinalis*); 11. Sand mustard (*Sinapis muralis*).

Pasture weeds are,

1. Dwarf-thistle (*Carduus acaulis*); 2. Common camomile (*Anthemis nobilis*); 3. Star thistle (*Centaurea calcitrapa*); 4. Ox-eye daisy (*Chrysanthemum leucanthemum*); 5. Great fleabane (*Conyza squarrosa*); 6. Cheese rennet (*Galium verum*); 7. Long-rooted hawkweed (*Apargia autumnalis*); 8. Wild thyme (*Thymus serpyllum*); 9. Sheep's sorrel (*Rumex acetosella*); 10. Knot-grass (*Polygonum aviculare*); 11. Yellow rattle (*Rhinanthus crista galli*); 12. Common Carline thistle (*Carlina vulgaris*).

Pasture weeds which generally prevail in loamy soils, and such also as are prevalent in clayey and damp soils, are principally as follow :—

1. Yellow goat's-beard (*Tragopogon pratensis*); 2. Marsh thistle (*Carduus palustris*); 3. Melancholy thistle (*Carduus heterophyllus*); 4. Meadow thistle (*Carduus pratensis*); 5. Common butter bur (*Tussilago petasites*); 6. Common ragwort (*Senecio Jacobæa*); 7. Common daisy (*Bellis perennis*); 8. Common black knap-weed (*Centaurea nigra*); 9. Broad-leaved dock (*Rumex obtusifolius*); 10. Orchis (*Orchis mascula*, *maculata*, *latifolia*, *morio*, and *pyramidalis*); 11. Common cow-parsonip (*Heracleum sphondylium*); 12. Sedge (*Carex*), various species.

We have now enumerated the whole of the principal weeds of agriculture, for the purpose of pointing them out to the young gardener and farmer as plants that they ought to know both at sight and specifically. For the first purpose, they may collect specimens of as many of them as grow in their neighbourhood, and probably procure the rest from some of their friends who may be employed in any of the Botanic Gardens; and the second object they will be able to obtain in the most complete manner from our *Encyclopædia of Plants*.

An appendix to the "weeds" contains "Some Account of an effectual Mode of cleansing heavy Lands infested in a high degree with Fallow Weeds, particularly with Couch-grass

(*Triticum repens*), without the aid of Naked Fallow, as practised by Mr. R. Dickson, of Kidbrook, Blackheath." We have noticed the spirited exertions of this gentleman before (*Gard. Mag.* vol. i. p. 88.), and have only to conclude by recommending, not only the Essay on Weeds on its own account, but because "all the profits go to the benefit of the author's widow and family."

ART. IV. *Catalogue of Works on Gardening, Agriculture, Botany, &c. published since September last, with some Account of those considered the most interesting.*

BRITISH.

Curtis, Wm., continued by John Sims, M.D. F.R.S. &c. &c.: *The Botanical Magazine, &c.* London. 8vo. Monthly Numbers. 3s. 6d. No. 479., for December, contains Figures of *Solanum saponaceum*, *Gilia capitata*, *Harrisonia loniceroides*, *Potentilla splendens*, *Lobelia coerulea*, *Lobelia senecioides*, *Trichosanthes tuberosa*, *Phyllica spicata*.

Edwards, Sydenham, F.L.S. &c., continued by John Lindley, Esq. F.L.S. &c.: *The Botanical Register, &c.* London. 8vo. Monthly Numbers. 4s. No. 142., for December, contains Figures of *Hedychium maximum*, *Protea villifera*, *Pyrethrum roseum*, *Pyrethrum diversifolium*, *Canthium dubium*, *Justicia flavicomia*, *Heterotaxis crassifolia*, *Barnardia scilloides*.

Loddiges, Conrad, and Sons, Nurserymen, Hackney: *The Botanical Cabinet, &c.* London. 4to. and 8vo. Monthly Parts. 5s. and 2s. 6d. Part 116., for December, contains Figures of *Triglochin bulbosum*, *Cattleya Forbesii*, *Grevillea acanthifolia*, *Oxalis cernua*, *Achania malva-viscus*, *Roella ciliata*, *Erica tubiuscula*, *Crotalaria cordifolia*, *Ornithogalum lacteum*, *Mesembryanthemum gemmiflorum*.

Sweet, Robert, F.L.S. &c.: *Geraniaceæ, or Natural Order of Geraniums.* London. 8vo. Monthly Numbers. 3s. No. 84., for December, contains Figures of *Pelargonium Goweri*, *Pelargonium purum*, *Pelargonium latifolium*, *Pelargonium tanacetifolium*.

Sweet, Robert, F.L.S. &c.: *The British Flower Garden.* London. 8vo. Monthly Numbers. 3s. No. 66., for December, contains Figures of *Calyptegia reniformis*, *Polemonium sibericum*, *Tradescantia rosea*, *Oenothera serotina*.

This is a very superior work, and as it contains only hardy plants, and such as every one who has a garden may introduce into his flower border, we are surprised it is not more generally known. Besides, where there are young people learning to draw flowers, it will serve as a perpetual copy-book. We wish Mr. S. would combine hardy ornamental trees and shrubs; he might then call his work the *British Flower Garden and Shrubbery*, and it would supply what has long been a desideratum in Garden Botany.

Sweet, Robert, F.L.S. &c.: *Cistineæ. The Natural Order of Cistus, or Rock Rose.* London. 8vo. Every Two Months. 3s. No. 9., for November, contains Figures of *Cistus psilosepalus*, *Helianthemum vulgare*, *Cistus villosus*, *Hudsonia ericoides*.

Maud, B.: The Botanic Garden, &c. London. Small 4to. Monthly Numbers. 1s. 6d. and 1s. No. 24., for December, contains Figures of *Spigelia marilandica*, *Digitalis lutea*, *Centaurea suaveolens*, *Primula farinosa*.

Fleming, H., late Editor and Proprietor of "Fleming's British Farmer's Chronicle," a weekly Newspaper: The British Farmer's Magazine; a periodical Work, exclusively devoted to agriculture and rural affairs. London. 8vo. No. 1., for November, 4s. To be continued quarterly.

The Farmer's Magazine, published in Edinburgh, from 1800 to February last, when it was discontinued, owing to the misfortunes of its publisher, we have no hesitation in asserting, has contributed more to the advancement of the Agriculture of Scotland, than all the other means put together of disseminating agricultural knowledge in that country. We consider it an honour and advantage to reckon its late editors among the number of our friends; they are men of great strength of mind, sound political economists, and were, when in business, excellent farmers.

To them, and especially to the first editor, the farmers of Scotland are much indebted; and the publication has even produced extensive benefit in England and America. We regret the discontinuance of this Magazine in the land which gave it birth, for various reasons; but are glad to see a similar one undertaken in this country, by an editor, whose successful establishment of an agricultural newspaper, may be considered as a proof that he will use every exertion to render his present work worthy of patronage. We have reason also to believe that he will be supported by our excellent correspondent *Verus* (*Gard. Mag.* vol. i. p. 259.), who, as we have elsewhere mentioned, was one of the founders, and for many years afterwards the editor, of the original Farmer's Magazine.

We know, from our own experience, that it is impossible to get up a periodical work so as to please every body. We have no doubt Mr. Fleming's will be satisfactory to the greater number of his agricultural readers, and no doubt it is for these he writes; but we must confess we should have liked to have seen him embracing a more extended view of the subject of the corn laws; and showing, that whatever may be the intermediate misery, cheap corn will ultimately be found best both for farmers and landlords. By cheap corn, we mean corn at a natural price; and to something like this, whether good or bad for the farmers and landlords, that is, to something like a free trade, Mr. Fleming must know that it will certainly come at last. Would it not therefore be a more useful attempt, and probably also, more productive of readers to the Magazine, to prepare farmers and proprietors for this change. Perhaps Mr. F. will discuss this view of the subject in his next Number.

Dean, Wm. Printer and Publisher, Manchester: An Account of the different Gooseberry Shows held in Lancashire, Cheshire, and other Parts of the Kingdom, for the year 1826. To which is added, a Statement, exhibiting, at One View, the Number of Prizes won by each Sort of Berry, at the several Meetings. Manchester. 12mo. 2s.

Winstanley, John, Bookbinder, and Joseph Clegg, Innkeeper, Manchester: An Account of the different Flower Shows, held in Lancashire, Cheshire, Yorkshire, and other Parts of the Kingdom, in the Year 1826, of Auriculas, Tulips, Ranunculuses, Star-pinks, and Carnations. To which is added, a Statement, exhibiting at One View the Number of Prizes won by each Sort of Flower, at the several Meetings. Ashton-under-lyne. 12mo. 3s. 6d.

This little book, and the preceding, are of no small interest to an immense number of persons, being the "Transactions" of upwards of two hundred country horticultural societies. The Flower-book contains their meetings,

in April for auriculas and polyanthuses; in May for tulips; in the beginning of June for ranunculuses, in the end of June for pinks; and in July for carnations. The Gooseberry-book records one hundred and forty meetings, held in March and April, to "make up" or arrange the prizes to be given, and the same number of meetings in July and August, to compare the fruit and adjudge the prizes. These books are published every year, and besides an account of the meetings or shows, they contain at the end announcements of new fruits and flowers "coming out," and of meetings for the ensuing year. As a specimen we shall give two extracts, and first from the Gooseberry-book.

Seedlings going out. "Simon Hooton's green seedling, *Doctor Syntax*, grown by William Farmer, goes out on the first Saturday after the fifth of November, at Mr. Barrows, Pitt and Nelson Inn, Ashton-under-lyne. There will be a fair held at the same time, for the sale of young plants." "Mr. Robert Whittaker's seedling will not go out this year, on account of the wood growing so badly; but he will abide by his last year's challenge. A gooseberry show will be held at the house of Mr. Benjamin Bramwell, Black Lion, Stockport. The landlord will give an excellent wheelbarrow for the Steward's prize; there will be four kettles, and a kettle for maiden growers, if not under two. The spring meetings will be held on the first Fridays in February and March, the making up on the first Friday in April, and the day of weighing on the first Friday in August. Those who do not pay up their money on or before that day will not be allowed to show for the steward's prize. Only one seedling allowed in a colour. Free ten miles round Stockport."

The gooseberries raised by these societies cannot be considered of any great value, either for culinary purposes, or in regard to flavour for the dessert; size being the sole object of the competitors, who, in their own gardens, grow quite different sorts, and chiefly the Warrington, for general use. For show, however, no dessert gooseberry comes near them.

From the Flower-book we learn that in the autumn of 1826 there are,

Seedlings going out. "Mr. Ralph Booth's grey-edged seedling, *Auricula*, *Speedwell*, will be let out at the house of Mr. John Bankes, Star Inn, Stockport Little Moor, the 10th day of August.

"James Cook's seedling *Polyanthus* goes out on the last Saturday in August, at Mr. Blackburn's King Sowton: Mr. William Dickenson's green-edged seedling goes out at the same time and place; also his grey-edged seedling to be sold in plants."

"Mr. Smalle's *Rose Flake Wonderful* will go out in lots in October, 1827; it is considered by all who have seen it, to be a leading sort among the *Rose Flakes*." "North's *King Agrippa* goes out this year at 5s. per pair." "John Hardman's *Pink Bizard* seedling, to be called *Ruler*, to be sold out in pairs on the first Saturday in October, at his own house, Darcy Lever, near Bolton."

"There will be a show of tulips held at the house of Mr. William Parr, at the sign of the Steam Engine, Street Bridge, near Royton; the landlord will give 1*l.* to the meeting; free to all England; the making-up meeting will be on the first Saturday in April, 1827."

Such as wish to possess any of these flowers or gooseberries will find it the easiest way to give their orders to their regular florists or nurserymen, who will procure them through their nearest correspondent.

Anon.: A practical Essay on the Culture of the Vine, and a Treatise on the Melon. Royston. 12mo. 1 Plate. 1*s.* 6*d.*

This Essay and Treatise were written for, and gained their respective prizes at, the Horticultural Society held at Baldock, in the county of Hertford. The author adopts the "spurring in" method of pruning (*Encyc. of Gard.* § 2969.) with the vine; and with melons in pits, he re-

commends that "the stopping of the main shoots should not be done till they have reached to sixteen or eighteen joints;" long experience having taught him that melon plants require a larger space to grow in than is generally allotted to them. He prefers pits eight feet wide for a main crop; but for an early crop he adopts the common dung-bed, or Macphail's brick pits, and stops his shoots at the tenth joint.

Hogg, Thomas, Florist, Paddington, Author of a Treatise on the Carnation, Pink, &c.: An abridged Catalogue of Carnations, Picotees, Pinks, and Auriculas. Paddington. 1s. 6d.

This astonishing collection consists of upwards of 700 names; arranged as Scarlet Bizarres, Crimson Bizarres, Pink and Purple Bizarres, Scarlet Flakes, Purple Flakes, Rose and Pink Flakes, Bizarre-feu, Bizarre Incarnat, Bizarre Rose, Violet, Feu, Incarnat, Pourpre, Cramoisi, Cerise, &c., Blush and White, English Picotees, Foreign Picotees, Picotees with yellow grounds, Pinks, Variegated Auriculas, Auriculas plain, and Alpines shaded. Few florist's flowers are so truly desirable as the carnation, both on account of its beauty and fragrance. A collection equal to Mr. Hogg's, we believe, is no where to be met with; we would recommend such of our readers as are admirers of fine flowers, to send for his catalogue, (which being in one sheet can be sent by post as a single letter,) where each sort has its price fixed, and where they may choose at various prices, from 3s. per pair, up to 25s. per plant.

Cushing, J., a Native of Ireland, and for some time Foreman to Messrs. Lee and Kennedy, Nurserymen, Hammersmith. He died in 1819 or 1820: *The Exotic Gardener, &c.* London. 3d Edit. 8vo. 10s. 6d.

Tatford, W. I. M. D.: Sketches towards a Hortus Britannicus Americanus, &c. London. 4to. 2l. 12s. 6d., or with the Plates uncoloured, 1l. 15s.

Withers, Wm. junior, Esq., of Holt, Norfolk: A Memoir, addressed to the Society for the Encouragement of Arts, Manufactures, and Commerce, on the Planting and Rearing of Forest Trees, demonstrating the Necessity of trenching Ground previously to planting, and of keeping it clean afterwards, and proving, from actual Experiments, the powerful and profitable Effect of Manure, in promoting the Growth of Trees. With an Appendix, containing Mr. Waistell's valuable Tables, for ascertaining the progressive annual Increase in the Growth of Trees, at every Period of Four Years, from Twelve to Sixty-four Years, the Rate per cent. they pay in the several Periods of their Growth, and other interesting Particulars. Holt and London. 8vo. pamph. 1s. 6d.

So much has been said on the advantage of preparing ground previously to planting, that it would be difficult to offer any new argument; but a few striking facts published now and then are useful, by recalling the importance of the subject to the attention of the planter. Such facts Mr. Withers has brought forward in this pamphlet, which, as Mr. Cobbett (*Reg.* Nov. 25.) observes, is "neat, plain, unassuming, and full of interest."

Experiment I. Five acres planted by pitting in 1811. The trees made no progress. At the end of five years they were almost all dead but the Scotch pine: trenched the ground, and filled up the vacancies with deciduous trees, which have grown vigorously.

Experiment II. Half an acre, trenched two feet deep, and planted in 1819. In 1826, the trees much superior to those planted eight years before them.

The notion that weeds, by covering the surface, keep the soil cool, is ably and judiciously combated; and also another notion, equally fallacious, that stirring land in dry weather lets in the drought. As "young trees must be principally indebted to the superficial soil for their nourishment, every weed which is suffered to grow must rob these trees of a portion of

their food." "Stirring land in dry weather is the only effectual means of keeping it in a moist state; the loose mould detached by the hoe operating as a shade upon the soil beneath. Let sand, about two inches thick, be laid upon a piece of broken ground, and in the hottest weather moisture will be found below, while the ground adjoining (not shaded by the sand) will, if not pulverized, be hard and dry for nearly a foot in depth; and hoeing produces the same effect as the sand. As to any other shade than that produced by hoeing, the plants want none; and the more powerful the heat of the sun, the faster they will grow, even upon the lightest soils."

"Planting, we all know, cannot be done in the worst manner without expense; and if the extra cost which insures a profitable crop be spared, the object is entirely defeated, and the money which is expended wholly thrown away. It would be quite as reasonable for a farmer to incur all the cost of preparing his land for turnips, and then to lose his crop rather than be at the expense of hoeing it, as it is for a gentleman to lay out his money in putting trees into the ground, and then omitting to expend such an additional sum as is *absolutely necessary* to make them productive." (p. 12.)

Mr. Withers pays a just compliment to Mr. Sandys of Wells, "who is no less distinguished for his ability as a planter, than he is for the taste which he uniformly displays as a landscape gardener, in ornamenting and beautifying gentlemen's estates." Mr. S. began to plant upon the Holkham estate about forty-six years ago, and has raised nearly about 1000 acres of the most flourishing and valuable trees in the kingdom; but Mr. Withers "sincerely believes, that if these trees had been assisted in their early growth by manure, Mr. Coke's estate would have been worth at least 100,000*l.* more than it now is." Mr. S. first taught Mr. W. the necessity of trenching and cleaning land for trees, and the latter gentleman thinks it no more than just to offer this testimony to the merits of the former. Mr. Sandys, indeed, must be a planter and an artist of great and valuable experience, and we should feel much gratified in being able to reckon him among the number of our correspondents. "Professional recollections and gardening anecdotes" from this respectable veteran would be interesting to every reader.

Experiment VI. In 1824 "some Scotchmen persuaded Admiral Windham that neither trenching, ploughing, nor cleaning was necessary: that just to raise a flag by making a triangular incision, and putting in a seedling plant, and pressing it down with the foot, was quite sufficient to raise, in quick time, a flourishing and valuable plantation; and that, as to the grass and weeds, they would keep the trees warm, and also keep out the drought; they would, in fact, be a source of heat and moisture: and all this was to be done for 5*l.* 10*s.* an acre. Most gentlemen are disposed to listen to any proposal for doing work cheaply: accordingly, the Scotchmen were employed, and planted the forty acres. But the plantation is a *total failure*." The theory offered by these "Scotchmen" is unquestionably false, and the practice they recommended is peculiarly unfit for the county of Norfolk, which, from its liability to dry eastern winds, has one of the worst climates for newly planted trees in England. It may be argued in favour of the practice of cross-slit planting, generally, that it is better than no planting at all; or, in other words, ground so planted will ultimately become covered with trees; that in cold, moist climates it succeeds better than on dry soils; and that it is well adapted for the sides of steep mountains, where, if the ground were dug or trenched, it would be washed away by the rains. It is certainly a very bad practice in Norfolk, and were it consistent with propriety, we could refer to an estate, also on the east coast, on which we have lately been consulted, where small clumps and strips had been planted in strong clay soil, by a mode

not materially different from the above, and afterwards totally neglected, though the avowed object was to produce a woody appearance, and shelter for game as speedily as possible. Mr. Withers justly observes, that good permanent cover for game is only to be had by means of underwood, which cannot be made to grow of sufficient size for many years, unless the land be kept clear of weeds. But in fact the inconsistencies of gentlemen in planting and then neglecting their plantations, and yet expecting to produce wood, shelter, and effect, are without end. We can only, with Mr. Withers, hope that they will ultimately be convinced, that by a more liberal expenditure at first planting, and by careful cleaning for three or four years afterwards, the desired result will be obtained more speedily, effectually, and at less expense.

The Appendix is taken from the 26th vol. of the Transactions of the Society of Arts, and, as may be supposed, is interesting to a planter, by enabling him to foresee the growth of his trees at different periods of futurity. To conclude, we shall be happy to second the laudable efforts of Mr. Withers to disseminate just notions on the subject of planting; we should wish to hear from him occasionally as to the progress of his trees, or on any topic connected with so interesting a subject, and we recommend his pamphlet to every landed proprietor who desires to plant with success.

FRANCE.

Gilbert, H. F., a distinguished Agriculturist (See *Encyc. of Agr.* p. 1174.): *Traité des Prairies Artificielles, ou Recherches sur les espèces de plantes qu'on peut cultiver avec le plus d'avantage en prairies artificielles et sur la culture qui leur convient le mieux.* Ouvrage couronné par la Soc. Roy. d'Agricult. de Paris. 6^e edit. augmentée de Notes, par M. A. Yvart, Prof. à l'Ecole. roy. vétérin. d'Alfort, et précédée d'un Notice Historique sur Gilbert, par le Baron Cuvier. Paris. 1 vol. 8vo.

Anon.: *Essai sur les Associations Agricoles.* Toulouse. 8vo. 1 leaf.

Cappeau, M., President of the Court of Justice of Aix: *Traité de la Législation Rurale et Forestière.* Paris. 3 vol. 8vo. 21 fr.

Dombasle, M. Matthieu de, Director of the Agricultural Establishment of Roville: *Annales Agricoles de Roville.* 3^e livr. 8vo. (*Gard. Mag.* vol. i. p. 196.)

This number contains an interesting account of the establishment of M. Felleberg of Hoffwyl (*Encyc. of Agr.* § 343.), of so recent a date as 1825, by which it appears to be going on as vigorously and as successfully as ever. There are pupils from almost every country, even a young Arab: their total number is sixty.

Lépinos, M. E. B. de: *Petit Cours d'Agriculture, ou Manuel du Fermier, &c. &c.* Paris. 8vo. 3 fr. 50 c.

Paupaille, M., Author of a Treatise on Chemistry in the *Encyclopédie Portative*: *Discours sur les Applications de la Chimie à l'Agriculture et à la Botanique.* Paris. Pamph. 8vo. Very well executed; part of it was read before the Linnean Society of Paris.

Bard, C. P.: *Minéralogie Populaire, ou Avis au Cultivateurs et aux Artisans sur les Terres, les Pierres, les Sables, &c.* Paris. 18mo. 30 c.

Rigault, Baron de: *Nouvelle Méthode pour la Culture de la Vigne dans le Département de la Gironde.* Bordeaux, 12mo.

Rapport sur l'Utilité des Paragrées, et sur la Nécessité pour le Gouvernement d'accorder sa Protection à leur établissement général en France,

par la Société Linnéenne de Paris, aux Ministres de l'Intérieur et de la Maison du Roi. Paris. Pamph. 8vo. 1 pl.

Delpierre, Léocade: Nouveau Guide du Fermier. Château roux. Pamph. 18mo. 1 pl.

Anon.: Troupeaux de Mérinos, livres en cheptel (?) par l'Association Rurale de Naz. Paris. Pamph. 8vo.

Baron, MM. and Co. Bakers: Notice sur la Grande Boulangerie établie dans la plaine de Genelle, auprès de Paris. Paris. Pamph. 8vo.

Gacon-Dufour, M^m.: Manuel complet de la Maîtresse de Maison. Paris. 12mo. 2 fr. 50 c.

Roret, the Paris bookseller, is publishing a number of manuals of this sort, which are well spoken of by the French critics.

Grogner, L. F.: Recherches Historiques et Statistiques sur le Mûrier, le Ver à Soie, et la Fabrication de la Soierie, &c. Lyons. Pamph. 8vo.

Lombard, M.: Manuel des Propriétaires d'Abeilles, contenant les Instructions le plus récentes pour bien soigner ces insectes. Paris. 8vo. 6th edit. 4 p.

Aulagnier, M. Alph.: Aperçu sur la Géologie et l'Agriculture du Département de la Haute-Loire et pays limitrophes. Le Pay. 8vo.

The plan of this work affords a valuable hint to agricultural surveyors, by showing the connection which always subsists between the geology of a country and its agriculture. It also shows the great importance of the study of geology.

Delamarre, Louis Gerv., Proprietor and Forest Cultivator: Traité Pratique de la Culture des Pins à grandes dimensions, de leur ménagement, de leur exploitation, et des divers emplois de leur bois. Paris. 8vo. 2d edit.

Saint-Hilaire, M. Jaume, Author of various Works (*Gard. Mag.* vol. i. p. 76. 320.): Traité des Arbrisseaux et des Arbustes cultivés en France et en pleine terre, &c. Paris. 8vo. Parts 10th and 11th.

Petit, M., of the Office in Paris for registering Landed Property: Nouveau Dictionnaire du Jardinage, avec 2 Tableaux Synoptiques du Jardinage, indiquant les Cultures à faire dans chaque mois de l'année. Paris, 12mo. 2 Plates.

Anon.: Manuel du Jardinier, abrégé de l'Almanach du bon Jardinier, augmenté d'un chapitre d'économie domestique, contenant la basse-cour et la culture des grains, prairies, &c. servant à la nourriture des animaux qu'elle renferme. Paris. 12mo. pls. 4 fr.

A. J. B. B. de C.: Agriculture et Jardinage enseignés en 12 leçons. Paris. 12mo. 7 fr.

Prévost, M. junior, Nurseryman at Rouen: Essai sur l'Education et la Culture des Arbres fruitiers pyramidaux, vulgairement appelés *quenouilles*; précédé de Considérations sur les causes qui se sont opposées et s'opposent au succès de cette culture dans la plupart des jardins. Rouen. Pamph. 8vo.

Cordier, F. S., Doctor of Medicine: Guide de l'Amateur de Champignons, ou Précis de l'Histoire des Champignons alimentaires, vénéneux, et employés dans les arts, qui croissent sur le sol de la France. Paris. 16mo. 11 pl.

M. G.: Secrets de la Chasse aux Oiseaux, &c. Paris. 12mo. 8 pl. 3 fr. 50 cen.

Anon.: Bulletins de la Chambre Royale d'Agriculture et de Commerce de Savoie. Chambéry. 8vo. 1st year.

GERMANY.

Joanneum de Gratz, 15th Report. Vienna. 4to.

This is the title of an institution founded by the Archduke John of Austria, for the encouragement of agricultural and manufactorial industry. It is held at Gratz, in Stiria, and has been principally instrumental in introducing improved breeds of animals. Considerable progress has also been made, under its direction, in the manufacture of cloth from goats' hair.

Bernhardi et Völker, Proprietors of an extensive, compiling, printing, and bookselling establishment in Weimar, called the Landes-Industrie-Comptoirs, or Office of Rural Industry: *Neues allgemeines Garten-Magazin; oder gemeinnützige Beiträge für alle Theile des Deutschen Gartenwesens*. New General Garden Magazine, or Communications adapted to every Part of Garden Management in Germany. Weimar. 4to. vol. i. part 5. 2 col. pls. Part 6, 3 col. pls. and 1 plain.

Part 5. contains the contents of the Botanical Register, Numbers 110. to 114., with illustrative plates of *Epidendrum cuspidatum* and *ciliare*, *Aeranthus grandiflora*, and *Brassia caudata* from that work, several papers from the London Horticultural and Caledonian Horticultural Transactions, and an Essay on Landscape Gardening, concluded from No. 4. — No. 6. contains five registers, three papers from the Horticultural Transactions, Mr. Tredgold's observations on heat, moisture, and evaporation, from our Magazine, and a paper by one of the Editors, Dr. Völker, on agricultural maps, that is, maps showing the different soils and sub-soils of a country. We should be happy if our respectable colaborators would devote a part of their work to a description of the principal parks and gardens in Germany, or to a history of gardening in Germany. What, for instance, is the present state of the park at Weimar, so beautifully described by the Prince de Ligne? We should be happy to translate such a paper. Having pointed out what would render the *Garten-Magazin* more interesting in England, we should be glad of a similar hint from MM. B. & V., as to what would render the Gardener's Magazine more interesting in Germany.

Loudon's Encyclopädie des Gartenwesens, &c. This work, translated from the English, which has been publishing in parts since 1823, was completed in May last, and forms two thick 8vo. volumes, with a 4to. volume of plates. Weimar. 13 rthlr.

Very few gardeners can have much occasion for the German language; but those who have, will find this work, in connection with the English copy, a valuable help to its acquirement.

Loudon's Encyclopädie des Landwirthschaft, &c. The first part of this Translation appeared in March last. Weimar. 8vo. 8 gr.

We should be greatly obliged to the translator if he would give a more complete history of agriculture in Germany than we were able to do.

Anon.: Kurze und sichere Anleitung zur Waasserung der Weisen, &c. Short and sure Directions for watering Meadows. Leipzig. 8vo. 6 gr.

Haxi, M. de, Counsellor of State of Bavaria, Author of an Essay on the Union of detached Property, (*Gard. Mag.* vol. i. p. 321.): *Vom Dünger als Lebens princip der Landwirthschaft*, &c. On Dung, as the vital Principle of Agriculture, and on the Abuse of its Employment in Germany, especially in Bavaria. Munich. Pamph. 4to. 5 eng.

This is a valuable work. The author, following the French writers, divides the different species of manures into two orders; the first, *dünger* (*fumiers*), dungs, properly so called, containing matters of animal or vegetable origin;

the second, *besserungen* (*amendemens*), amendments, improvements in the component parts of the soil, or mineral manures, such as calcareous and other earths, ashes, salts, irrigation, and incineration. The principal abuse complained of is the loss of the manure which ought to be collected in large towns; for example, in Munich and Berlin. A second abuse consists in using putrescent manures, when they are in their first or putrid fermentation, or in their last stage, or prolonged decomposition, instead of applying them in their middle state, after the violent heat of the first fermentation has subsided; and a third abuse consists in applying *dungs* to corn crops, and on the surface of grass lands, instead of applying it to root or green crops. This is sound doctrine, and we have no doubt the work will be of essential use in Bavaria, where a great spirit for agricultural improvement has lately been excited. Baron d'Eichthal, who spent upwards of a year in this country, at the expense of the Bavarian government, in the study of the different systems of agriculture both in England and Scotland, returned in July last, taking with him some workmen and a number of implements. He promised to send us a communication on the agriculture of his country, of which this notice will remind him. We are the more anxious to receive it, as the Baron alleges that we have not done justice to Bavaria in the Historical Notice of its Agriculture in our Encyclopædia. The truth is, very little is known in this country of the present state of Bavaria in any art.

Wittmann and Denglaer, Superintendants of the Domains of the Archduke Charles of Austria: *Landwirthschaftlich Hefte*. Sheets of Agriculture, principally intended for the Workpeople on the domains of the Archduke Charles, and for the Pupils of the Agricultural Institute of Altenburg, in Hungary. Vienna. 3 sheets. 1 rthlr. 12 gr.

The object of this periodical is not a little remarkable, considering the country in which it is produced. A great landed proprietor is seeking to increase the value of his territory by a direct attempt to enlighten the minds of its occupiers. In general, the same end is aimed at by performing operations on the territory itself as examples. Either method will attain the end; but the first is unquestionably the most scientific, and likely to be the most effectual and permanent. Both methods ought to be combined, and are, in fact, combined on the estate of the Archduke Charles, whose example is worthy of imitation on some large estates, or groups of estates, in the remote parts of this country. Suppose the Marquess of Stafford, and the adjoining proprietors in Sutherland and Rosshire, were to print a few useful treatises connected with the economy of country life, and circulate them amongst their tenantry at cost price. Implements, both of rural labour and housekeeping, clothes, watches, seeds, &c., or, as our worthy correspondent Cameron (p. 31.) proposes, snuff-boxes, &c. might also be offered at cost price. The same thing might probably be attended with good effects in Ireland. By interesting all classes in that country in a common subject, certain feelings of animosity might possibly be so far neutralised, as no longer to prove a bar in the way of agricultural, moral, and domestic improvement.

Walther, M.: *De re Rustica*, libri 3: accedit Vocabularium Latino-Germanicum, in usum studiosæ juventutis Germanicæ. Gissen. 8vo.

This work is highly spoken of in the *Isis*, a celebrated German periodical; and we should think an interlineary translation of it, in Hamilton's manner, would be one of the best books by which a young gardener or farmer could acquire the Latin language.

Sturm, Professor: *Ueber Racen Kreuzungen und Veredelungen*, &c. On the breeding, crossing, and perfecting of domestic Animals. Elberfeld. Pamph. 8vo. 2 pl.

Ribbe, M., Professor in the University of Leipzig: *Das Schaaf und die Wolle, &c.* On Sheep and Wool, their history, the manner of treating and improving them, &c. Leipzig, 8vo. 1 r. thlr. 8 gr.

Reim and Werner: *Der practische Bienenwatter in allerley Gegenden.* The Practical Education of Bees, adapted to all Countries, &c. Leipzig, 8vo. 5th edit.

Reider: *Die rationnelle Bienenwirthschaft, &c.* The rational Bee Husbandry, &c. Nuremberg, 8vo. 1 r. thlr. 8 gr.

Galb, L.: *Anleitung für der Landmann, &c.* Instructions for the Cultivator in the Fabrication of Syrop and Sugar from Potatoes, by means of a common still, &c.; followed by Directions for the Manufacture of Starch, Sweet Spirit, and Potatoe Syrop. Trèves, pamph. 8vo. 12 gr.

According to the author, every person who grows potatoes may manufacture sugar from them, at the rate of 11lbs. of sugar from 100lbs. of potatoes. The white beet, he states, yields only 4lbs. in 100lbs., and therefore he considers the potatoe as decidedly the best European sugar plant; a conclusion somewhat startling after the experiments of Chaptal related in his *Chimie appliquée à l'Agriculture*.

Anon. *Der Landmann als Thierarzt bei Krankheiten der Pferde, &c.* The Countryman as Veterinary Surgeon, in the case of Diseased Horses, &c. Ilmenau, 8vo. 1 thlr.

Dieterichs, I. F. C.: *Katechismus der Pferdezucht, &c.* Catechism of the Art of rearing Horses, &c. Berlin, 8vo. 12 gr.

Nagel, H. de. *Vollständige Uebersicht, &c.* A complete View of Domestic Occupations in the Country, including the Management of Orchards, Kitchen Gardens, and Bees. Munich, 8vo. 1 r. thlr.

DENMARK.

Winstrup, M., machinist to the king at Fredericksberg, near Copenhagen: *Afbildninger af de bedste og nyeste Agerdyrkningsredskaber, &c.* Figures of the best and newest Agricultural Implements. Copenhagen, 4to.

Engravings of the best British implements, especially those in use in Scotland, and including one or two of German construction, such as Professor Thaers' drill. The whole of them are manufactured and sold by the author: no bad proof of the attention paid to agriculture in Denmark.

ITALY.

Le Prévôt de Rivolta: *Nuovo Metodo di Agricoltura.* A new Method of Agriculture, &c. Lodi, 16mo. 87 c.

The author proposes to relieve agriculture from its present depressed state, by the culture of "a precious little plant," the name of which he promises to give in a future publication.

Tozzetti, Ottav. Targioni, professor of agriculture and botany at Florence: *Dizionario Botanico Italiano, &c.* Dictionary Botanical and Italian, containing the vulgar Italian Names of all the Plants in common culture, or generally to be met with in Italy, with their corresponding Botanic Names. Florence, 2 vols. 8vo. 2d edit.

This work first appeared in 1809, and was very favourably received throughout Italy. This new edition is enlarged and enriched with a variety of practical remarks on the economical application of plants; and it has besides a description of the different species and varieties of Italian fruits.

The medicinal plants, and the modes of using them, are described and detailed, and the various poisonous herbs and fungi indicated. The work must be particularly useful to English residents at Florence, who take any interest in country matters; and such as are there and do not, lose no small share of enjoyment. The author lectures both on agriculture and botany. His son is one of the principal physicians, and has translated Sir Humphrey Davy's *Agricultural Chemistry*, and other English works. Should any friend to this Magazine at Florence have leisure, we entreat him to follow the example of our "Brussels Reader" (p. 87.), and send us occasional notices of what is going on. Are the improvements at the Palace Pitti finished? Has the farm managed by Sismoudi, the charming hills of Pescia, or Nievole, been visited, or the park at Rossore? Many highly interesting and useful notices might be sent us from beyond the Alps; and we again entreat such of our readers as are there, or such here as have friends on their travels, or resident abroad, to try and do something for the cause in which we are engaged. Let the consideration of serving us go for nothing; but surely the gratification of entertaining (not to say instructing) thousands is worth a little trouble.

Savi Gaetano, professor of botany, and director of the botanic garden at Pisa: *Almanaco per i dilettanti di giardinaggio, &c.* Almanack for the Amateurs of Gardening, with some Agricultural Observations, by Hipp. Pindemonte. Pisa, 12mo.

This little work is divided into six parts: the first is a monthly kalendar of work to be done; the second, a continuation from the preceding year of the history of the Apocynæ; third, history of the Liliacæ; fourth, history of the Irideæ; fifth, observations on the different races of roses, introduced into commerce as new; sixth, principles of botany, for the use of gardeners; and, seventh, agricultural dissertations, by Pindemonte.

ART. V. — *Notices of New Works in the Press, &c.*

Icones et Descriptiones Filicum Rariorum, &c. Dr. Hooker and Dr. Greville are engaged in preparing for publication a work, with numerous figures, in folio, upon the New or Rare Species of Ferns, under the above title. The engravings will be executed in the same style as those in De Lessert's *Icones Selectæ*, and Humboldt's *Nova Genera*; and the descriptions will be entirely in Latin. The first part is in a state of considerable forwardness. (*Brewster's Edin. Journ. Oct. 1826*, p. 377.)

New Holland Plants. "So many beautiful plants from New Holland have been lately introduced, the whole of which are the most desirable plants for a greenhouse or conservatory, and many of them may be grown in the open air, so as to be protected with a covering in winter, that Mr. Sweet has it in contemplation to publish a periodical work, entirely on New Holland plants, with figures and descriptions, and the best method of cultivating each particular species; so that ladies or gentlemen may select from the work the plants that they most admire, and, at the same time, may be acquainted with the right method of cultivating them."

R. S.

PART III.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Foreign Notices.*

FRANCE.

Gardening Improvements it would appear are very popular in this country. Mr. Blaikie, the landscape gardener, writes, "If I could go to twenty places at once, I could hardly answer all the demands that are made upon my time. Every proprietor here, whether he does any thing or not, is anxious to know what his place is capable of being made, by planting, and new arrangements of roads, fences, and buildings.

"As for *planting*, I have adopted a system by which I can remove trees at all seasons. As soon as they are taken up, I dip their roots in a puddle of cow dung and loam, which preserves their fibres from the influence of the air. When this practice is adopted in the winter season, the plants may be sent to any distance, or kept out of the ground for weeks without the slightest injury; and I have frequently transplanted trees in the heat of summer by this precaution, and with perfect success.

"We have a *kind of cherry* in this country which they never graft, but increase by suckers: the trees are rather dwarfish, but the fruit is tolerably large and good. I do not find this sort mentioned in English authors: pray, is it known in England? (We think not. — *Cond.*)

"I am, dear Sir, &c.

"THOMAS BLAIKIE."

"*Paris, Rue du Colisée, 23. Nov. 20th 1826.*"

Jean-Frédéric Oberlin, protestant pastor at Waldbach, in the territory of *Ban de la Roche*, between the Lower-Rhine and the Vosges, died in June last, in his eighty-sixth year. The dreary territory of *Ban de la Roche*, it is said, is chiefly indebted for its civilization to this excellent pastor and his predecessor. The pastor Oberlin finding the country without roads, supplied the inhabitants with instruments and gunpowder, and taught them to blow up the rocks, and form highways. He instructed them also in the use of manures, and introduced seeds and plants suitable to the soil and climate; so that the steep sides of hills, which were formerly arid and sterile, are now covered with pasture and wood, and the lowlands with gardens, orchards, and corn. He taught some of the inhabitants surgery, others midwifery, and he composed a tract, (as our benevolent correspondent Mr. Collins has done for this Magazine,) on the medical uses of native plants, and directed their preparation and employment personally. His solicitude for the physical wants of his flock did not lessen his zeal for their moral and intellectual improvement: he established schools for different ages, in which were taught manners, rural and domestic occupations, and intellectual instruction. From his pulpit he inculcated a rational morality, founded on its utility in society; and on the impossibility of being happy without the approbation of the wise and good, and of conscience. He was the friend and counsellor of the humblest and highest of his flock;

respected and honoured by many societies, who were proud to enrol his name among their honorary members; and "*en fin*," says the French writer, from whom we translate this, "Louis XVIII., sur le rapport du ministre de l'intérieur, daigna décorer le pasteur Oberlin de la croix de la Légion d'Honneur."

With a view to preserve the memory of this excellent citizen, who may be compared to Charles Borromeo, it has been determined to establish in *Ban de la Roche* a *Fondation de Charité* bearing his name. Subscriptions for this purpose are received in some of the principal cities in France, and in London by M.M. Treuttel and Würtz, 30, Soho Square.

Linnean Society of Paris. M. de Rivière, in the *Annals* of this Society, proposes a new language of Botany, in which each organ shall be expressed by a letter, and the number of organs by the place which the letter occupies in the word. This botanical notation he wishes the Society to promulgate, "and thus to do for the scientific world what the French Academy has done for the literary." (*Lit. Gaz.*)

Rutabaga, or Swedish Turnip. In the *Mémoires du Muséum d'Histoire Naturelle*, An. 6. p. 226, M. Correa and M. Cels endeavour to determine the difference between the Swedish turnip and the Lapland cabbage. According to them, the rutabaga is a variety of *Brassica naspus*, and the Lapland cabbage, or what we commonly call the turnip-rooted cabbage, of *B. oleracea*.

Oil as a Manure. M. Delcourt, an intelligent cultivator in the north of France, has been in the habit of employing, for the last ten years, the oil of rape seed (*colza*) as a manure. He either mixes it with horse droppings, or those of the cow or sheep, or with vegetable ashes of any kind. In either case, the oil uniting with the alkali forms a soluble soap which can be taken up by the pores of the roots of plants. M. Delcourt uses this manure chiefly in the cultivation of tobacco and *colza*; and his crops are the finest in that part of the country.—(*Ann. de l'Agric. Franc.*, Nov. 1824.)

Comparative Cultivation of Timber Trees. According to M. Loraine, a writer in the *Journal de l'Agriculture du Nord*, (February 1824.) the profits of planting different trees will be in the following order: 1. *Populus alba*; 2. the elm; 3. the ash; 4. *Populus canadensis*, and 5. the oak. The soil and other circumstances are supposed to be the same for each tree. His mode of estimating is as follows: An oak requires two hundred and forty years to complete its growth, during which period the *Populus alba* will have four times completed its growth. Supposing the mature oak worth seven hundred francs, and the mature poplar worth one hundred francs, this latter sum, laid out at five per cent. compound interest, adding the produce of the three additional poplars, will, at the end of two hundred and forty years, with all the accumulations of interest, amount to 58,500 francs, while the value of the oak is only 700.

GERMANY.

Garden of the Prussian Gardening Society, Berlin, July 1826. Dear Sir, I cannot leave Berlin without sending you a few notices of what is going on here. The topic that I think will be most interesting to you is the Prussian Gardening Society. As you are a member, you have of course their Transactions, and therefore I shall confine myself to their garden. I had permission to go there whenever I liked, from the Director Otto, who was remarkably civil to me, as indeed were all the directors of gardens on whom I called both in Germany and Italy, whenever I shewed my passport. * * *

* * * * *. M. O. invited me to be present at the Society's meeting held

at Newshöncberg, where the Society's house is, and with which I was highly gratified. The Society's Garden comprises about twelve acres, and is dedicated solely to the use of the young students of gardening: it is superintended by the Director Otto, and under the sub-direction of a foreman. The number of young men taken every year is twelve, eleven of whom pay about 10*l.* premium, for which sum they are boarded and lodged in the Garden House. One of the twelve is an orphan, who through the goodness of the Society is taken gratis: there are masters who attend these students three times a week, for their instruction in Latin, mathematics, and drawing; they attend also botanical lectures read by Professor Schlechtendal, who is keeper of the Willdenow Herbarium. Six of these students are in the Botanic Garden one week, and in the Society's Garden the other. After having attended these studies and both gardens for twelve months, they are then sent to the Royal Forcing Gardens, Potsdam, which are on a very magnificent scale, and there they remain the other two years under the care of the Director Lenné. After the expiration of this term, and having conducted themselves properly in the garden, they are allowed to travel for three years, through Germany and France, for their improvement; but previous to their leaving the garden they are examined, and also on their return; and according to their merits they are rewarded with places.

This part of the Prussian Gardening Society's plan will, I am sure, be highly gratifying to you, who attach so much importance to the education of gardeners: in this respect, the London Horticultural Society appears to me much inferior to that of Prussia.

The Botanic Garden of Berlin has a better collection of plants than any other on the continent, notwithstanding the severe climate which they have to contend with. These plants are in excellent order. I may say I never was so astonished as when I beheld in their temporary green-house Eucalyptus, Acacia, Melaleuca, Leptospermum, &c. forty feet high, flowering and fruiting abundantly. I was told they are the finest specimens of these genera in Europe. The palm-house has a circular roof, and the plants appear to thrive amazingly. The construction of the other houses is similar to that of our green-houses.

The Forcing Gardens at Potsdam are under the superintendence of Mr. Sello: these gardens were formed by Frederick the Great, and contain more glass than I ever saw at any place, either at home or abroad. The orangery is built in the old style, and is eight hundred feet long, filled with good plants.

The Garden of the Marble Palace is on a smaller scale, and chiefly botanical and ornamental. I next visited the Pfauen-insel, (Island of Peacocks,) which is a delightful spot; the Hofgartner, (court gardener,) Mr. Fintelmann, is famous for the cultivation of Dahlias, (Georgina is their generic name for this plant): he informed me that he had upwards of three hundred sorts of double ones. He excels also in the forcing of cherries, and has written on both subjects in the Prussian Gardening Transactions. The pleasure grounds of the palace of Charlottenburg, and various other gardens and parks, I found as described in your Encyclopædia. In my next, I shall give you some account of the gardens of Holland.

I am, dear Sir, &c.

J. TAYLOR.

Hortus Berlinensis. In our Review of the state of Botany in Prussia, we stated inadvertently, that the last edition of this work contained 5791 species; it should have been 1708 genera, and 10299 species. The mistake arose from the plan of the Berlin Hortus, in which the second part is numbered independently of the first, and the second part contains 5791

species. The error was very natural, but we lose no time in correcting it, and also another which crept into the same Review, viz. that "Ehrenberg and Hemprich in Egypt, and Sello and Olfers in the Brazils, are collecting for the Emperor of Austria;" — they are collecting for the King of Prussia. This fact, and the circumstances noticed by Mr. Taylor in the foregoing letter, show the extraordinary exertions in botany and horticulture going forward in Prussia. — *Cond.*

National Forests. A German agricultural Journal (*Oekonom. Neuigkeit. und Verhandl.*; 1826, No. 48. p. 382.), contains an able paper on the inutility of a government's having national forests, any more than national brick-kilns, or breeding farms for horses. The author concludes, that in a state in which order and security prevail, and where there exists a mild and enlightened government, there can be no need for national forests, and all the wood of the country will be better in the hands of private persons. This, he says, is proved by the example of Austria, by reason, and by experience.

ITALY.

Agricultural Penance. The Curate of Montagano, in the county of Molise, in the kingdom of Naples, gave as a penance to the farmers who confessed to him, that they should plant so many olives, vines, or other trees, in certain naked parts of the country: the consequence is, that what before was a desert has now the appearance and productiveess of an orchard. (*Bull. Univ. Août 1826.*)

Glycyrrhiza glabra, the plant which produces the liquorice of the shops, is cultivated in England for the use of brewers and distillers, but liquorice is manufactured from it only in Sicily and Spain. It grows naturally in these countries and in Languedoc, and in such abundance in some parts of Sicily, that it is considered the greatest scourge to the cultivator. Its roots penetrate to a great depth, and the deeper the ground is opened with a view to eradicate them, so much the more vigorous is the succeeding crop, as is pretty nearly the case in digging up a crop of horse-radish in this country. No other culture is given than removing the crop, thus spontaneously produced every third year. The juice is expressed from the roots, much in the same way as oil is from olives: they are first washed perfectly clean; then crushed in an olive mill; then boiled four or five hours; pressed in the olive press, and the juice slowly boiled in an iron vessel. (*Bull. Univ. Août. 1826.*)

SPAIN.

Ceratonia siliqua, or *St. John's bread*. This tree is of great importance on account of its fruit, which grows in pods, and is about the size of a Mazagan bean. In Valencia one tree will sometimes yield a crop worth from 80 to 100 francs; it is generally used for feeding horses, but also as human food in times of scarcity; it is also used to adulterate coffee and cocoa. The plants are grafted when a year old, and as the male and female blossoms are on different plants, a scion of the male is generally grafted on the female when the tree is to stand alone; but in a plantation one male tree is found sufficient for thirty females. (*Bull. Univ.*)

Agriculture. The late M. Correa de Serra wrote in the Archives Littéraires, tom. second, p. 226. an essay on the agriculture of the Arabs in Spain. In this work, which was much esteemed at the time, Mr. Correa thinks that agriculture has never been so flourishing in Spain as it was when the country was inhabited by Arabs. In order to examine the cause of the superiority, he has analysed the Complete Treatise on Agriculture of Eben-el-Awarn, and of a fragment of a manuscript on the culture of the Arabs by Kutsami, a Chaldean author. The result is, first, that in the time

of the Arabs there were cultivated in Spain a great number of useful vegetables, of which some are at present unknown, and others very rare; second, that the Arabs bestowed a great deal of attention on the different kinds of manures; third, that they bestowed a great deal of labour on the ground; and, fourth, that they took great care to profit by the experience of other nations. Mr. Correa concludes, therefore, that the superiority of agriculture in Spain in the time of the Arabs ought to be attributed to their numerous population, to their laborious industry, and to their practical knowledge. (*Bull. Univ.*)

HOLLAND AND THE NETHERLANDS.

Boulevards of Brussels. Amongst the most considerable of the recent improvements in Brussels, are the Boulevards, or lines of elm and lime trees, inclosing three distinct and parallel roads for foot passengers, carriages, and horses, and occupying the place of the old ramparts, which have been removed and levelled. By the judicious plan of concealing the new wall, built to prevent the smuggling of articles that pay town dues, in a sunk ditch, an uninterrupted view of the beautiful surrounding country is afforded on that side of the boulevards; while the side next the city is faced with handsome new houses or gardens, mostly fenced in that direction with uniform iron palisades. This improvement has been completed some years on the east, south, and south-west sides of the city, supplying a delightful walk, ride, or drive under trees which already begin to afford shade for two or three miles, and is still in progress on the lower or north side. (*A Brussels's Reader of the Gard. Mag.*)

New Botanic Garden at Brussels. The very limited extent of the old garden, and its unfavourable situation in the midst of houses, having long pointed out the necessity of measures for remedying these defects, a society has been formed under the patronage of the king, to be entitled "The Royal Society of Horticulture of the Netherlands," for the purpose of establishing a new botanic garden. The capital of the society is to be 200,000 florins, (17,500*l.*) raised by 400 shares of 500 florins each, each share bearing an interest of 4½ per cent. (to arise from annual sums granted by the Regency or Corporation of Brussels, &c.), and being entitled to a proportion of any sum remaining after the annual expences have been paid. Many of the shares are already taken.

The site chosen for the garden is a tract of ground of considerable extent just beyond the Boulevards to the north of the city, between the gates of Schaerebeek and Guillaume, and workmen have been some time busily employed in levelling and preparing the ground. As the surface has a good deal of irregularity, being partly on the side, and partly at the bottom of a hill, and the garden will be fully commanded by the adjoining boulevard, it will, if laid out with taste, be a great addition to the beauty of this part of the city. — The subscribers are to be admitted every day: the public, as in the present Botanic Garden, thrice a week, from ten o'clock to three. — (*Journal de la Belgique.*)

Park at Brussels. It is said to be in contemplation to remove the exterior row of clipped lime trees, and the hornbeam hedge at the south end of the park, fronting the king's palace, (lately enlarged, and in part rebuilt), and to replace the latter by iron palisades, which at some future time will probably be substituted for the present hedge all round the park. (*Ibid.*)

Vines. A late Belgian journal states, that the experiment made within these few years to cultivate the vine in South Brabant promises every success. The vintage at Wesemael, which finished on the 25th October, will produce 130 casks (pieces) of wine from about eight bonniers (hectares) of land, which last year yielded but 55 casks. The land thus cultivated is

said not to be fit for any other produce. At the close of the vintage a fête, and a cask of wine to drink, were given to the labourers employed.

New Botanical Works. Two new botanical works are announced for speedy publication at Brussels. 1st. "*Sertum Botanicum*," to comprise 600 plates, coloured with the greatest care, of plants the most remarkable for their elegance, their splendour (*éclat*), or their utility; and 2d. "*Annales de la Société Royale d'Horticulture des Pays Bas*;" which will contain, first, new plants discovered by travelling naturalists, and, secondly, plants previously incorrectly or imperfectly figured, accompanied with an explanatory text, and notices regarding the culture of interesting species. Both works will be edited by a Society of Botanists, and published under the superintendence of M. P. C. Van Geel, Member of the Council of Administration of the Royal Society of Horticulture of the Netherlands. These works will be published monthly, in livraisons of six plates each, and three or four leaves of text; the whole in small folio, on hot-pressed vellum paper. The price of the *Sertum* will be 2½ florins (4s. 4d.) each livraison; of the *Annales* 3 florins (5s. 3d.) the livraison. (*Journal de la Belgique*.)

The Horticultural Society of Ghent held their winter show of plants on the 31st of January last. The medal of honour for the finest collection of plants in flower was adjudged to M. Josse Verleeuwen, nurseryman and florist at Ghent. A list of 15 plants which obtained this honour gives a favourable idea of the state of exotic culture in the Netherlands: they were *Strelitzia regina*, *Acacia laurifolia*, and *pubescens*, *Pæonia moutan*, *rosea*, *odorata*, and *suffruticosa*, *Cypripedium venustum*, *Azalea indica*, fl. *purpureo*, *Camellia japonica*, fl. *variegato*, *Zamia integrifolia*, *Epacris attenuata* 2 plants, *E. rosea* 2 plants, *E. purpurascens* and *pungens*. The prize *de la belle culture* was adjudged to *Strelitzia rutilans*, from the collection of M. A. Van der Woestyne, of Wandelghem, near Ghent; and *la mention honorable* was adjudged to a number of cultivators and amateurs. The same society have offered their silver medal for the finest collection of the genus *citrus*, to be exhibited at their summer show of 1829. At the exhibition of this Society, last June, the prize was adjudged to *Astrapea Wallichii*, to M. Verleeuwen as before. Among the plants, the best grown were *Cordia speciosa*, *Nerium coronarium*, *Cerbera manghas*, *Ixora coccinea*, &c. (*Ibid.*)

The Society of Domestic Economy at Utrecht, at their June show of plants, "crowned" *Zamia horrida*, from the garden of M. Beelschajder, of Rupelmonde, and *Iris nepalensis*, from that of M. Van der Hoop. Among the best grown plants, were *Protea pinifolia*, *Gardenia florida*, and *Hakea amplexicaulis*. (*Bull. Un.*)

POLAND AND RUSSIA.

Culture of the Vine, in the Southern district of Russia. This is making considerable progress. In Moldavia, and on the left bank of the Pruth, a white grape, containing a great deal of carbonic acid, is successfully cultivated. In the Crimea, especially at Soudak, grapes are grown with very large berries, often not less than plums; but they do not yield well in the press. The vines of Spain and Languedoc are successfully cultivated by a Frenchman, at Larci, near Balaklava. A white wine is produced on the banks of the Molotschna, which falls into the Don; which wines are very well known in Moscow and Petersburg under the name of Don wines. There is a vineyard near Astracan, which produces very good wine, the greater part of which is sent to the imperial court of Petersburg: what is sold produces a higher price than the wines of France. The north side of Caucasus produces a wine of middling quality, and in sufficient quantity

for the inhabitants of these countries. In Georgia and Mingrelia, Russia may produce wines to rival those of Hungary and France. Already Georgia produces a considerable quantity of excellent wine, and in less than twenty years as much will probably be produced there as will supply the whole of Russia. (*Ökonom. Neuigk. und Verhandl.* 1825.)

Pectra, the country residence of the Prince M. P. Galitzin, (*fig. 28.*) is situated a few miles to the south of Moscow, on an elevated sandy bank, on

the margin of a small lake. The house, for a Russian country-seat, may be considered small; but the church is large, and forms, with the house, very picturesque combinations from different points of view. At a short distance is a village, reckoned one of the handsomest in Russia; it consists of a street of cottages and gardens, detached, and highly ornamented. The gable ends of the cottages are the chief places where ornament is displayed. The roof projects over them, and, suspended from the eaves, are carved figures of the sun, moon, stars, wheels, double eagles, wolves, human faces, &c., all carved in wood, and with no other instrument than the axe. The chief ornament in front is a porch, and sometimes a rustic veranda. The walls are built of logs, and the roof covered with shingles. The interior is one room with a stove, sometimes in the end, but more commonly at one side opposite the door. (*J. L.* 1825.)

The Wild Pear. A writer in the Annals of German agriculture considers this fruit as having, in remote ages, afforded the principal nourishment of the inhabitants of Europe. It is certain that it grows wild in every country and in every soil, from the Baltic to the Mediterranean. It is at present most common in Russia, as being the least cultivated country; its fruit, under the name of grouschi, is eagerly devoured by the natives in a raw state: and where they are abundant, they are dried and laid up for winter use, and form soups and stews with different species of mushrooms; they are also sometimes fermented and distilled, or made into that agreeable liquor called quass; while the must, mixed with chaff, forms a most inviting food for horses. The timber of the tree is of known value to turners and patten-makers. The *Pyrus nivalis*, discovered on the Austrian Alps by Jacquin, produces a fruit similar in quality to that of the *Pyrus communis*. (*Bav. Jour.*)

Thongs of twisted leather are used in Poland and Russia, instead of tanned leather, in the harnessing of horses. The skins are prepared by drying, steeping in warm water to get rid of the hair; drying again, and then steeping in hot grease. After this several thongs are tied together at the ends, and twisted by fastening one end to the floor, and turning the other round by a stick. The heat, the grease, and the continued twisting and untwisting, softens the leather, and renders it fit for use. Such a practice may sometimes require to be resorted to by emigrants in uncultivated regions. (*Bull. Univ.*)

NORTH AMERICA.

Linnean Botanic Garden, Flushing, near New York, Feb. 14th, 1826.
We have received an account of this extensive establishment from its proprietor Mr. Prince, that we cannot but think will be gratifying to our readers. The efforts of Americans in every useful art are gigantic like their country. "This establishment," Mr. Prince observes, "is so much larger and more extensive than any other, or than all others combined in America, that I have no doubt it would be a matter of surprise to you in so new a country. The collection of young fruit trees, plants and flowers, alone, covers 32 acres compactly filled.—The green-houses are 200 feet by 30.—The number of species and varieties exceeds 8000. The collection of oranges is the best known out of Italy, and the collection of fruits equal to any in the world, having culled the most select from Brussels, the north of France, Paris and its vicinity, and Marseilles and the rest of the south of France. Those offered for sale as very select, after rejecting several hundred kinds of European inferior varieties, are as follow: apples, 172 varieties; pears, 202; plums, 140; cherries, 76; apricots, 25; peaches, 84; nectarines, 16; almonds, 14; quinces, 8; mulberries, 14; figs, 17; currants, 15; raspberries, 15; grapes, 345; strawberries, 21; roses, 610; ornamental trees of the largest size, 80; ditto second size, 65; ornamental shrubs, 150; evergreens, 65; hardy vines and creepers, 68; pæonies, 41; carnations, 115; Chinese chrysanthemums, 32; iris 54 distinct species, and varieties innumerable; hardy herbaceous plants, above 1000 species; hyacinths, 388 varieties; tulips, 620; amaryllis, 60; and other bulbs in proportion; oranges, near 40; camellias, 32; and the whole collection of green-house and hot-house plants exceeding 2500 species.—With regard to fruits, I have for 30 years pursued the principle of planting out specimen fruit trees of every variety, to ascertain decisively as to their correctness; and I have now above 1200 varieties, which stand as bearing trees to afford permanently genuine grafts, and to show the genuine kinds to persons visiting the establishment. I take as my guide for French fruits, Duhamel, the Bon Jardinier, and the government publications. I have originated a great many extremely valuable fruits by mixture of the pollen; one of the oldest, and which is of about 30 years' standing, is the Princes St. Germain, originated by my mixing the pollen of the Virgouleuse with the St. Germain, and it is known throughout our country as one of the finest fruits; the original tree is now full, and if I can recall it to mind, I will send you a box of the pears this season. I estimate very highly the experiments making by the Hort. Soc.; but the theory as to the duration of fruits for a certain period, and that they then become universally extinct, can be very easily overturned, as I will shew you hereafter. I am at this moment engaged in tasting the fruits of every section of Europe in order to arrange the synonyms, and you will see when my pamphlet catalogue reaches you, that I have paid great attention to that particular."

SOUTH AMERICA.

National Botanic Garden, Buenos Ayres, 10th August, 1826. This establishment was determined on in August, 1823, and in 1825, Mr. Alexander Paul Sack, a gardener of superior education, various talents, and very great experience, was appointed Curator, chiefly through the recommendation of the Consul General, John Hullet, Esq. We consider ourselves fortunate in being able to reckon Mr. Sack among the number of our correspondents, and have already received a long letter from him on the subject of this new, arduous, and important undertaking. Soon after Mr. Sack's arrival last summer with a great number of plants, an amended decree of Congress of the 6th of June last was issued, containing fifteen articles relative to this garden. Art. 3. states the duty of Mr. Sack to be "to direct the administration of the garden for acclimating plants (aclimaticion); to plant and cultivate every tree of utility for shading walks or roads, fuel, and for every description of construction; every kind of flowers, ornamental trees, fruits, medicinal plants, seeds, grasses, and pot-herbs; and to superintend a school of practical agriculture for the youth of the different provinces." Mr. Samuel Attwell is named as Mr. Sack's assistant; a gardener is to be kept travelling in the provinces of the Republic, where correspondents and subsidiary establishments are to be appointed or formed as circumstances may require, &c. &c. The unsettled state of Buenos Ayres has hitherto prevented Mr. Sack from being able to do much; but whatever progress he makes, he has promised us an account of it, sending in the mean time an interesting communication respecting the potato, which we shall lay before our readers at an early opportunity. Till when, we leave Mr. Sack, in the words of his letter, "employing men, cleaning his Excellency the President's garden, where acres of potatoes are hoed up, with other weeds common to Europe."

ART. II. — Domestic Notices.

ENGLAND.

Botanical and Horticultural Society of Durham, Northumberland, and Newcastle-upon-Tyne. The report of the Committee of this Society has been sent us by one of its members, Mr. Thomas Smith, from which it appears to be a well-ordered and prosperous society. In this tract of twelve pages is given a list of sixty-nine prizes awarded from August, 1825, to August, 1826. We should be happy to receive some account of the origin and laws and regulations of this Society, as well as of all other local societies.

Ross Horticultural Society. On October 4th was held the last meeting for the present year. The number of plates of fruit amounted to 186, most tastefully displayed on two large tables. The Ross florists most splendidly redeemed their pledge in furnishing a stage of double Dahlias, which reached quite across the top of the room, and contained 250 named flowers. On the table were some extraordinary specimens of out-door grapes, and it is intended next year to award prizes to this class of fruits. A monstrous gourd was exhibited by the gardener of the Rev. Robert Strong, which measured seven feet in circumference, and weighed 139 lbs. Mr. Hooper, of Putson, exhibited a branch of a tree which appeared to be one of the Hornbeams, out of which sprang oak and hawthorn leaves in great profusion. The exhibitor, in a letter to the Secretary, declared it to be a natural production. The sale of fruits, &c. not removed by the exhibitors,

took place at 7 o'clock, and produced 5*l.* 6*s.* 8*d.*; this amount in a fruit neighbourhood warrants all that has been said of the fruit specimens. The number of specimens ticketed and entered into the Society's book amounted to 456. A number of prizes were awarded. (*Gloucester Journ.* Oct. 7th & 14th.)

The late extraordinary dry and warm summer has brought different fruits and plants to a degree of ripeness and perfection rarely witnessed in this country. The autumnal rains, on the other hand, have, as we have before observed, (p. 41.) injured the keeping qualities of pears and apples, and in some places of early crops of turnips and potatoes; they have also occasioned a second growth of herbaceous flowers, and in some cases two crops of annuals have been obtained, both of the culinary and ornamental kinds.

Grapes ripened in the Open Air.—Sawbridgeworth, Herts. Nov. 17th 1826. Sir, "You will perhaps allow me to record in your pages the remarkable fact, that the Black Hambro', Black Muscadine, 'Sir Abraham Pitches' fine Black,' and the Esperione, all ripened their fruit in the open quarters in our nursery, upon young plants plunged in pots, as well as upon the old stools. The white Frontignac and Spence's seedling, a variety of the Syrian, the latter bearing bunches weighing two pounds, though both *generally* requiring glass and fire heat, almost brought their produce to perfection under the same circumstances. As this may appear to some of your numerous readers to savour of the marvellous, let me add that the soil and situation are peculiarly favourable, the former a deep sand, the latter a south-eastern slope. I need scarcely add that the more common grapes, as the Muscadines, Sweet Waters, and Clusters, hardly ever fail to ripen their fruit under the same treatment.

T. RIVERS, jun."

Second crops of Apples. There are now three apple-trees in the garden of Captain Portbury, Stafford Terrace, Heavitree, near Exeter, which are showing a most curious proof of the extraordinary summer we have just experienced. One of the trees, a Red Quarantine, produced some fruit at the usual season; but it has since thrown out a profusion of blossom, and has now, in a healthy growing state, a complete crop, of the size of walnuts. — In the orchard of J. Grose Esq. Penpont, St. Kew, there are now five apple-trees bearing a second crop of fruit this season; one of the trees has more than a thousand apples on it, and some of these, that have been pulled this week, measure above an inch in diameter. — (*Newsp.* Oct.)

Large Apples. Four fine specimens of the Greenup Pippin were last week gathered from a tree in the garden of Mr. William Heywood, of Leyland. They measured 51 inches in circumference, and weighed 48 ounces. The tree from which these four apples were plucked bore a large quantity of fruit nearly equal in size to the above. — (*Newsp.*)

Reinette de Canada. On the 16th of October last, we saw in the garden of Lord Middleton, at Wollaton Hall, near Nottingham, an apple of this variety, measured by the gardener, Mr. Haythorn; it was 14 inches round, and weighed 19 ounces. — *Cond.*

Large Gourds. In the garden of T. A. Beck, Esq. of Grove, near Hawkshead, two yellow gourds were cut on the 27th of September, one of which weighed 71 lbs. 4 ounces, and measured nearly 5 feet in circumference; and the other 40 lbs. The former is the largest we ever remember to have heard of in the north. — (*Lanc. Gaz.*)

A large pumpkin was grown in the garden of Captain Portbury, Stafford Terrace, Heavitree, near Exeter, measuring 5 feet 2 inches in circumference, and weighing 80 lbs. — (*Brit. Farm. Chron.*) One was grown by Mr. French, gardener to the Rev. T. Oldham, Vicar of Dovedale, and exhibited in Mr. Bigg's seed-shop in Worcester, measuring 8 feet 6 inches round, and weighing 124 lbs. (*C. F. W.*)

Cucurbita claviformis, or Club-shaped Gourd. Large fruits of this kind are noticed in the newspapers as cucumbers, probably from their long

shape. A very fine one was sent us by our correspondent, Mr. R. Saunders, gardener to C. Hoare, Esq. at Luscombe, Devonshire. It was raised by him from seeds, received from Constantinople. (See *Gard. Mag.* vol. i. p. 300.) The specimen sent (*fig. 29.*) measured nearly four feet six inches

long, two feet round at the extreme end, and nine inches round at the stalk end; it weighed twenty-one pounds, and was of a greenish yellow colour. Mr. S. observes, that, gathered young, it is a delicate vegetable, and is valuable in dry summers in connection with the vegetable marrow and other gourds as a substitute for common vegetables. One grown in the neighbourhood of Taunton is thus described:

Prodigious Cucumber. Mr. Winter, of Shurford, near this town, has a cucumber growing in his garden, which measures 4 feet 8 inches long; it has grown 4 inches in length since Sunday evening last, and from its appearance is likely to grow to the uncommon length of 6 feet. — (*Taunton Courier.*)

Carrots. In the garden of John Marsden, Esq. at Hornby Castle, near Lancaster, were taken up, last week, several extraordinary carrots: one of them, which was 17 inches long, and 12½ inches in circumference, at the thickest part, weighed 4lb. 7oz. Three others were 20 inches long each, and weighed respectively 4lb. 10oz., 3lb. 13oz. and 5lb. 8oz. The roots were fine, firm, and in every respect eligible for the table. (*Lanc. Gaz.* Oct. 14.)

A head of Celery, weighing six pounds, was exhibited in the New Market, in Liverpool, on Oct. 7. It was grown by Mr. Gibson, a market gardener at Bootle. (*Lanc. Gaz.*)

Second Crops of Peas. On Nov. 2. a quantity of green peas was gathered from a field at Petham, self-sown from the spring crop. Our informant says, that by going over the field carefully, there might be collected several gallons. There are also to be seen self-sown beans, in full bloom, and from twelve to eighteen inches high, in many fields in the vicinity of Canterbury. (*Kentish Chronicle.*)

Golden Hotspur Pea. In a garden at Turley, Wiltshire, a fine second crop of this variety, raised from seed of those grown in the present summer, was matured for the table as early as the 26th of September. (*Salish. Jour.*)

Early Spanish Dwarf Pea. In the garden of J. Wilkinson, of Carlington New Hall, near Batley, two crops of the Spanish dwarf pea have been produced this year from the same seed. The first sowing took place in the latter end of February, and the crop was reaped the first week in July.

After some of the seed had stood till it was sufficiently ripe, it was again committed to the ground on the same bed, and a second crop was reaped on the 27th of September last. (*Fleming's Brit. Farm. Mag. Nov. 1826.*)

A second crop of Peas, from the seed of the first, has also been gathered in the garden of Mr. Pitchal, at Gleaston, in Lower Furness. (*Lanc. Gaz.*)

Second Crop of Potatoes. The fly having destroyed the turnips sown on 2A. 2R. 24P. of land, on the estate of Sir Robert William Vaughan, Bart. M.P. at Nannau, in the county of Merioneth, potatoes were planted on the rows, 18 inches apart, on the 28th of June last, from which eight hundred and fifty-eight bushels of fine potatoes were taken up in the last week. (*Sir R. W. V., Dec. 5th.*) See also p. 68.

Pinching off Potatoe Blossoms. We are sorry to observe that this practice is not generally adopted, as the produce would thereby be materially increased. (*Salis. Jour. Sept. 2.*) A correspondent has found from experience, that the crop is not only increased, but much better in quality, and wishes us to direct the attention of our readers to the practice, which we hereby do, fully convinced of its importance. (*See Encycs. of A. & G. in loco.*) *Cond.*

Large Crops of Mushrooms. So great has been the quantity of this "voluptuous poison" brought for sale to Preston, for the last three or four weeks, that immense quantities have been disposed of at threepence or fourpence a peck, and the smallest kind for pickling at twopence per quart. Cart loads have been purchased for the Manchester market, and, we dare say, have proved a source of much profit to the speculators. (*Preston Pilot.*)

Force of Vegetation in Mushrooms. Some men employed in Mr. Haskoll's brewery, in the Isle of Wight, lately observed a large stone to rise considerably at the interstices; and upon removing the pavement to discover the cause, found it to be occasioned by a large mushroom, the vegetative powers of which had forced the stone from its proper station. (*Salis. Jour. Sept. 2.*)

Mushrooms in Arable Land. Two men having potatoes in a field near Belper, in Derbyshire, on proceeding to the field to get some, to their great surprise found that a large number of fine mushrooms had sprung up in the potatoe rows, and in a small space of ground they gathered at least five pecks. The potatoes were planted in a little moss that came off a building, with an addition of some dung gathered off the roads. (*Fleming's Brit. Farm. Mag. Nov. 1826. p. 121.*)

A large Mushroom was gathered near Calverley; it measured twenty-seven inches in circumference, upon a stalk of two inches and a half in diameter, and which together weighed twenty ounces. (*Newsp.*)

Duchesse d'Angoulême Pear. Some very fine specimens of this exquisite fruit have been exhibited at the London Horticultural Society, and a very fine one was sent us by Mr. Rogers, from his nursery at Southampton. It measured eleven inches round, and weighed nearly 14oz.; the flavour most superior. The singularity of this pear is, that while it is one of the highest-flavoured sorts, it is also one of the largest. (*See Part IV.*)

Extraordinary Pear Tree. "Old Basford, Nov. 25th, 1826. Sir, Permit me to lay before you an account of an extraordinary pear tree, the name of which, in Gloucestershire, is the Brown Dominion. It is upwards of a hundred years old, and stands on the premises of Mr. Richard Charlton, of Old Basford, in the county of Nottingham. The height of the tree is thirteen yards, and from extremity to extremity of the branches, is eighteen yards, making a circumference of fifty-four yards. The trunk measures six feet seven inches round. This tree for these last twenty years has not produced less than from twenty to eighty pecks per year. In the year 1823 it bore 107 pecks of pears, each peck containing 420 pears; and this present year, 1826, it has produced 100 pecks, each peck containing 270 pears, and each peck, when gathered, weighed 20lb., making a total of a ton weight

of pears in one year. What is most singular is, that as the tree grows older, the fruit grows finer, to the decreasing of above a hundred pears in the peck. I suppose this is owing to the laying of manure and soil around the roots. The fruit keeps till May. I send you four of them.

I remain, Sir, &c.

E. M. MATHER.

Dec. 8. We tasted the pears, and found them of the *breaking* class, and of a middling good flavour, rather under the middle size, regular in form, with a rough russet-coloured skin. (*Cond.*)

American Aloe. The fine specimen of this plant in the greenhouse of the Hon. Newton Fellowes, at Eggesford, has now attained the height of 30 feet, being a growth of 26 feet since the first week in June; the stem is 17 inches in circumference at the base, and its appearance is that of a chandelier, 38 branches springing from the main stem, on which have been counted 5000 flowers and flower buds; one branch alone has 261 buds. The plant is healthy and vigorous, and is expected to continue in flower till October. (*Plymouth Herald, Sept. 9. 1826.*)

Meloncito de olor. Among a variety of seeds received by Dr. Hamilton, of Fareham, near Plymouth, from his correspondent, Edward Watts, Esq., British Consul at Carthage (Colombia), last winter, were some of those of the *Meloncito de olor*, or small sweet-scented melon, so universally cultivated in the gardens of the inhabitants for the fragrance of its fruit. This plant, cultivated under the auspices of Mr. Pontey (whose taste and skill need no eulogium from us), has flowered and perfected its fruit, which we have seen, and can bear testimony to the truth of the statements respecting its exquisite fragrance, which, when heightened, as we presume is the case, by the genial temperature of its native climate, must be perceptible to a great distance around. This fruit, which appears capable of being cultivated with ease in a common hot-bed, or melon-frame, is of an oval or egg shape, equal in size to a moderate-sized lime or large-sized hen's egg; when ripe, it is of a golden yellow, with a perfectly smooth rind, exhaling an odour of an almost overpowering sweetness, peculiar to itself. The use to which we believe it is put by the inhabitants of Colombia is, like the perfumed fruit of the Rose Apple (*Eugenia Jambos*), to place in drawers with clothes, to which it communicates a considerable portion of its delicious odour. We cannot too strongly recommend the culture of this fragrant and curious plant, to such of our friends as are admirers of the rare and exquisite productions of nature; nor can we give too much praise to Mr. Pontey, for the zeal and liberality with which, at his own private expense, he encourages the introduction of rare and valuable plants into this neighbourhood. At the same time we sincerely congratulate Dr. Hamilton, in possessing in Mr. Pontey so valuable a coadjutor in his patriotic labours. Besides the sweet-scented melon, Mr. Pontey possesses several thriving plants of the *Albacca del Monte*, another rare and aromatic plant, raised from seed received from Colombia last winter; together with a number of thriving specimens of that elegant West Indian shrub, the Camel Bush (*Cerbera Thevetia*), so remarkable for the elegance of its foliage, and the fragrance of its fine golden blossoms. The camel bush is, we understand, known in the vicinity of Carthage by the name of *Cavallonga Oriolla*, and an oil of much celebrity in those parts, called *Cavallonga*, is obtained from its seeds. (*Plymouth Herald, Sept. 9. 1826.*)

The Tallipot Tree (Corypha umbraculifera). A leaf of this extraordinary palm has lately been brought over from the island of Ceylon, of which place it is a native, and is now in the possession of the Rev. Richard Fletcher, of Hampstead. The leaf is in a good state of preservation; it measures fully 11 feet in height, 16 feet across its widest spread, and from 38 to 40 feet in circumference. If expanded as a canopy, it is sufficient to defend a dinner party of six from the rays of the sun, and in Ceylon is carried about by the natives for that purpose. (*Newsp.*)

various junces (of the Gar-

Dear Sir, " Agreeably to
 next, I have much pleasure
 in giving you the following short
 description of the plant Bonapartea
 (fig. 50.) In July and Au-
 14, I travelled through
 and part of France to
 and visited by the way most
 gardens of importance, pur-
 suit to a variety of plants. The

one of them, and might
 judging from its size, be be-
 lieved to be four years old. I
 found it in various situations,
 especially in the hot-house;
 but also do well in the green-
 house in summer in the open
 air. It is a native of Peru, and
 introduced to this country in
 1791. The flower stem made its
 appearance about the middle
 of last, and for about six
 weeks made the rapid growth of
 four inches in the twenty-
 four hours, since which, with the
 heat of the day, its growth has
 become moderate; it is now
 fourteen feet high, and has
 flowers in various stages of

It appears to delight in
 proportion of heat mould
 in. I understand this is
 the oldest plant in England,
 before I am led to think its
 growth may have been promoted
 and having been disrooted
 fifteen months ago.

" I am, dear Sir, &c.

" JOHN. KNIGHT."

Nursery,
 Chelsea,
 Nov. 1826."

flower is green without, and
 a rich yellow within, and
 is very conspicuous; but the
 effect of the plant, espe-
 cially when it now stands in the
 of Mr. Knight's lofty cur-
 conservatory, is very im-

This plant has had no
 less than seven names. By some
 it is called an Agave; but it is now
 generally known as *Bonapartea*. It seeds rea-

M. Soulange Bodin has
 raised upwards of 1000
 plants. — *Cont.*

Yucca gloriosa. Sir, there is now in the garden of G. W. Newell, Esq., Hollyport Green, near Maidenhead, a plant of the *Yucca gloriosa* about five years of age, which flowered in June, 1825. The height was nearly 6 feet from the base of the flower stem, which consisted of about 43 panicles, with from 15 to 20 flowers on each. In the course of the autumn of the last and the spring of the present year, two shoots have sprung from the base of the old flower stem, which shoots have this autumn thrown out flowering stems, one of which is now in bloom, and the other in a very forward state, and I have but little doubt will flower, if the weather continues as mild as it is at present. The height of the one in bloom is 5 feet from the base, and the number of panicles are 30, averaging about 14 flowers on each, the length of them being 9 inches. A plant of the *Yucca filamentosa* flowered in very fine style in the same garden in July and August. Is it not an extraordinary circumstance for the *Yucca gloriosa* to flower two years in succession? I am,

A constant reader of your excellent and useful Gardener's Magazine,
Maidenhead, Oct. 14th, 1826. W. A. F.

Edwards Square, Kensington, was laid out in 1819, by Mr. Alexander Paul Sack, now Director of the National Botanic Garden at Buenos Ayres, from his own plan. In the *Encyclopædia of Gardening* it is erroneously stated to have been laid out from the plan of A. Aiglio, Esq. on the authority, if we recollect right, of Mr. Aiglio himself; but we have not been able to get an explanation from that gentleman, who is, we believe, in Paris. In the mean time, we insert the correction sent us by Mr. Sack. (*Sept. 4th.*)

SCOTLAND.

Caledonian Horticultural Society, June 15. The Secretary having read to the Meeting a Report by Mr. Andrew Dickson and Mr. John Hay, relative to the Frame for preserving Wall-Trees, invented by Mr. John Dick, gardener to William Trotter, Esq. of Ballendean, and a model of which was sent to the Society some time ago; and that report being highly favourable, they unanimously voted the Society's Silver Medal to Mr. Dick, and directed that the frame be erected against a wall in the Garden, so as to be properly seen by the members.

Having heard a report from the meeting of Garden Committee, held on the 8th of June, relative to some remarkable clusters of cultivated Mushrooms sent from Pinkie House, and having also considered the merit of Mr. James Stewart, the gardener there, in forcing and blanching Rhubarb-stalks in the open ground in the manner of sea-kale, the Council unanimously agreed that the Society's Silver Medal be awarded to Mr. Stewart, and that he be requested to allow an account of his practice of forcing and blanching Rhubarb to be printed in the *Memoirs*.

July 6. Five prizes were awarded for different fruits.

Sept. 6. Nineteen prizes were awarded for fruits, which were in general of excellent quality, and afforded abundant evidence of the attention now paid to the higher branches of horticulture in this country. Some pleasing proofs were given of the advancement of horticultural improvement in the production, at this meeting, of two seedling Peaches, a seedling Grapevine, two seedling Apples, and a seedling Pear. The seedling Peaches were presented to the Committee by the Honourable Sir Alexander Hope, Bart. of Luffness, personally: he stated that they had been raised at the garden of his nephew the Earl of Hopetoun, by Mr. James Smith, the gardener at Hopetoun House. One of the sorts was regarded as being of most excellent quality; and the Committee unanimously recommended that an extra medal be awarded to Mr. Smith for this production, with a

request that he will furnish the history of it, and communicate cuttings for the Experimental Garden. The bunch of seedling Grape was likewise regarded as of very superior quality; and the Committee were equally unanimous in recommending the awarding of an extra medal for it, to Mr. James Simpson, gardener to James Wemyss, Esq. M.P., Wemyss Castle; with a request that the Experimental Garden may be supplied with cuttings, when a glazed house shall be ready. The seedling Apples were communicated by Mr. George Bell of Leith, and Mr. Finlay of Milfield; and the seedling Pear was from Ormiston Hall Garden.

The culture of the Tomato or Love-apple in Scotland seeming to the Committee to deserve encouragement, and six distinct varieties raised at Kennet Garden and ripened in the open air being produced to the meeting, the Committee recommended the awarding an extra medal to Mr. Peter Barnet, gardener to Robert Bruce, Esq. of Kennet, for his success in this branch of culture.

There were produced bunches nearly ripe of the Black Cluster and Greek Grape, from the open wall of the garden of Alexander Cowan, Esq. Lasswade, evincing both good management and a favourable season.

There were likewise exhibited some specimens of the old John Monteith pear, from an aged standard-tree in the orchard at Ormiston Hall, and also some specimens of the same pear gathered from a graft taken from the aged standard, and placed on a *hard* stock against a south-east wall; the former being stunted and scraggy, and the latter large, plump, and beautiful.

The Wine Committee report, that several of the Wines produced are excellent of their kinds, and at least equal to most of those formerly brought forward in competition. That which particularly attracted notice, and to which they consider the Medal as due, is marked "Melville Island;" the same competitor producing another excellently prepared Wine, marked "Caucasus." On opening the accompanying sealed letter, the Committee found, that the Melville Island Wine was prepared of White Currants and Refined Sugar, without Spirits; and the Caucasus Wine from a combination of White Currants and Raspberries, by Mrs. Patrick Torrie, Royal Circus, Edinburgh.

A Liqueur, prepared from Geans and Cherries, in imitation of the Swiss Kirschewasser, at Troquhair House, and transmitted to the Society by Lord Linton, through the hands of Old Provost Henderson, was produced; and although no medal has been offered for Distilled Liqueurs, yet the Committee recommended, that an extra medal be presented for this Liqueur, to shew the anxious desire of the Society to encourage every manufacture connected with the produce of the Garden.

Sept. 7th. The Secretary read a communication from Mr. George Shiells, gardener to the Right Hon. Lord Blantyre, Erskine House. Mr. Shiells, finding that the Black Damascus Grape did not *set* freely, took some bunches of the flowers of the Royal Muscadine, a free setting kind, and of which he had flowers to spare, and dusted the pollen over the flowers of the Black Damascus, about eight days after these had expanded, and when the stigmata seemed crowned with globules. Those bunches of the Black Damascus so treated, set very freely; while those not dusted with the Muscadine pollen, set only a few berries in each bunch. Specimens of bunches of both kinds were presented at the meeting. The meeting, regarding this practice, whether altogether original or not, (See *Gard. Mag.* vol. i. p. 308.), as deserving of attention and encouragement, unanimously voted an extra medal to Mr. Shiells; whose letter further proved that the practice was, on his part, the result of his own judgment and reflection.

The Glasgow Horticultural Society was instituted in 1812, for "the encouragement of all attempts to improve our present Horticultural knowledge

and practice, by bestowing rewards upon those members of the society who communicate useful information on horticultural subjects; who raise or introduce new and approved varieties of vegetables, fruits, or flowers; who produce the best specimens, and raise the largest crops of prescribed articles, or who, in any department of Horticulture, appear to merit approbation."

Its members consist of amateurs of horticulture, and of professional and practical gardeners.

Amateurs are considered members, on paying 10s. 6d. of entry-money, 5s. to the library, and the annual sum of 5s. or 3l. 3s. for life; and gardeners who have charge of hot-houses, on paying 5s. of entry, 2s. 6d. to the library, and 4s. annually, or 2l. 12s. 6d. for life; and all other gardeners on paying 5s. entry, 2s. 6d. to the library, and 2s. 6d. annually, or 1l. 11s. 6d. for life.

Donations for a permanent fund are also received by the Society. The number of meetings in the year is not fixed, and the number and value of prizes depend chiefly on the liberality of the nobility and gentry of Glasgow and its vicinity. A library is to be formed chiefly of horticultural, botanical, and agricultural books; donations to which will be thankfully received, and a list of the donors will be appended to the library catalogue. The above and other matters were sanctioned by a general meeting of the Society in Nov. 1825, and printed in 1826, under the title of "*Articles and Regulations of the Glasgow Horticultural Society.*" We shall be happy to hear of a beginning having been made to the library; and we hope it will ultimately be rendered accessible, under certain regulations, to all the gardeners about Glasgow, whether members of the Society or not.

Dumfries and Galloway Horticultural Society. The Committee report, that on the 21st October, a prize had been awarded to James Cunningham, gardener to W. Stothert, Esq. of Cargen, for the best walnuts; and another to Charles Davidson, gardener to — Murray, Esq. of Murraysithwaite, for the best filberts.

On the 2d December a variety of prizes were awarded for apples and pears. A prize was also awarded for an excellent assortment of vegetables, particularly very fine cauliflower and cellery. The fruit was very fine, and in excellent condition.

The Secretary produced a letter which he had received from Joseph Sabine, Esq. Secretary to the Horticultural Society of London, containing a very liberal resolution of the Council of the London Society, granting one of their large silver medals yearly (and to begin with the present year 1826,) the medal to be awarded by the Committee of the Dumfries and Galloway Society to any one member of the Society they shall think the most deserving in the course of the year, for his *competitions, cultivation, or communications* on Horticultural subjects.

The Committee resolved, that in consideration of the variety of valuable articles produced in an excellent state of cultivation during the year 1826, by William Chalmers, gardener to Ebenezer Stott, Esq. of Castledykes, they therefore recommend him as the person proper to receive the medal so liberally and handsomely agreed to be awarded as a reward of merit by the Horticultural Society of London.

The Committee, in order that the reward of merit may be diffused as generally as possible, and to induce gardeners to distinguish themselves, and that local circumstances and situations may have no undue influence, resolve that the successful candidate who may be preferred in the course of any year, shall not be entitled to receive a similar compliment till after the lapse of one year.

W. G.

Dumfries, 2d Dec. 1826.

Horticultural Society of Montrose. We have seen a copy of the regulations and bye-laws of this society, which was instituted in 1826. It con-

sists of a president, Henry Westmacott, Esq.; a committee of five, a secretary and treasurer Mr. Charles Sharp, and a number of members, with amateurs and practical gardeners. The prizes are to be given on the first Wednesday of May, June, July, and September. — A circulating garden library would, we are inclined to think, prove highly useful at Montrose. H. L.

Ayrshire Horticultural Library. The general annual meeting of the Ayrshire Horticultural Library took place at Ayr on the 3d November, when the following office-bearers were elected.

Mr. Thomas Skinner, preses. Committee, Messrs. James Andrew, John Goudie, John Smith. Thomas Imrie, treasurer. William M'Carter, librarian and clerk.

Among the many institutions at present in the town and county of Ayr, none seems to be in a more thriving state, and worthy of notice, than the one above named. It is progressively advancing in number of members, and consequently in number of books. It was instituted about two years ago by several gardeners, and is now patronized by the first gentlemen in the county. It consists of about 100 vols. of most expensive and valuable works, which are scarcely any where else to be found. They are well selected by a committee of intelligent Horticulturists, and it requires simply to mention the fact for the purpose of bringing the Institution more into the notice of the farmers, for whose interest we rejoice to understand they have determined likewise to embrace works calculated to promote the science of agriculture. We hesitate not to say, that the Institution bids fair to become one of the most valuable and useful libraries in this country, and an honour to the county of Ayr. We understand this laudable and praiseworthy example has been followed in other counties. The terms are extremely moderate, and the money, when collected, is instantly laid out in increasing the general stock of knowledge of Horticulture, Floriculture, Agriculture, &c. — (*Ayrshire Magnet.*)

We received the above after the whole of our Magazine was sent to press, otherwise we should have endeavoured to procure some account of the origin and rules of this very interesting institution, so much in unison with our sentiments. We trust to Mr. M'Carter to supply us with this information for our next Number.

Grapes. — There is at present (Oct. 1.) growing in the open air, on the front of a house with a west exposure, belonging to Mr. William Craven, village of Dirleton, a most abundant crop of black cluster grapes, fully ripe. Opposite the windows, where they have the benefit of the reflection of the rays of the sun, they are singularly large. This is a rare occurrence in this part of Scotland, being within one mile of the sea, quite exposed to the west winds. Mr. Craven has bestowed great pains on the training of the vines, and now considers himself more than requited for the trouble bestowed on them. The abundance of the crop may by some be attributed to the mildness of the season; but for these two years back he has reaped a plentiful crop. A vine of the Black Hamburgh is growing in the open air in the garden of Claud Nelson, Esq. Ardardan, which has a good crop. The clusters are large and handsome, the berries well swelled, and nearly as highly coloured as if they had been grown in a hot-house. This is a striking effect of the almost tropical heat which prevailed in this country this season. — (*Fife Herald.*)

Grapes in the open Air. — As a proof of the extraordinary fineness of the season, a good crop of grapes has been produced in the open air at Barncluth garden, near Hamilton, a great part of which were completely ripe. A few of the bunches weighed from a pound and a half to a pound and three quarters; but these were forced, in so far that either bricks, tiles, or slates were placed under them, and bell-glasses above them. The gar-

dener found, upon trial, that the slates succeeded much better in bringing them forward than either the tiles or the bricks. We have also seen some very rich clusters of grapes raised, at Carmyle House, in the open air, without the least assistance from artificial heat. — (*Glasgow Herald*.)

Walnuts. — We were this day (Oct. 2.) shown some walnuts completely matured, and equal to any English or foreign fruit we ever saw. They were grown in East Lothian, and the trees from which they were gathered were literally covered with fruit. It is a rare thing to see this fruit ripen here in any season, but to have it so early as the end of September, is certainly unparalleled. — (*Scotsman*.)

Walnuts and Chesnuts grew and ripened this season in the open air in several places in the Highlands, particularly at Castle Menzies. — (*Scots Times*.)

Huge Pear. — A pear of the Bell tongue variety was pulled the other day at Terraughty, Dumfries-shire, which is $16\frac{1}{2}$ inches in circumference at one place, and $12\frac{1}{4}$ at another. Its weight is exactly 27 oz., and we are not sure that a larger pear was ever seen or heard of in Scotland. — (*Dumfries Courier*.)

Lemna, or Duck's Meat. — This singular genus is rarely seen in flower in any part of Britain, and indeed its flowers were very long a desideratum in the botanical world. *L. gibba* had been seen in flower, we believe, in England only by Mr. Borrer of Henfield, Sussex, who observed it at Lewis; till last summer Dr. Greville observed, on the 24th of July, both *L. gibba* and *L. minor* in flower in great abundance in the ditch at the west end of Duddingston Loch. — (*Dr. Brewster's Jour. Oct. p. 377*.)

Botanic Garden, Edinburgh, 10th Sept. 1826. — The following list of rare plants, which have flowered here during the last three months, was communicated by Dr. Graham to Jameson's Philosophical Journal:

Asclepias tuberosa, flowered in the open border, in front of one of the stoves. *Banksia æmula*, flowering very freely in the greenhouse; the young branches and leaves are covered with a rusty pubescence. *Callicarpa cana*, raised from seed sent by Dr. Wallich from India in 1823, and marked "Nepaul;" it has been kept in the stove.

Campanula dichotoma, and *grandiflora*. *Capparis spinosa*, *Caper bush*, in the open border, in front of one of the stoves. *Commelina cyanea*. *Draba alpina* β *siliculæ pilosæ*. Br. Supplement to Appendix of Captain Parry's first voyage. The seeds of this and several other arctic plants were given to Professor Graham by Mr. Fisher, after Captain Parry's second voyage. Some of the plants could not be preserved after they had germinated; but this is fully established.

Glycine mollis. *Iris verna*. *Ixora incarnata*. *Lobelia corymbosa*. (Hook. Exot. Flor.) *Lonicera flexuosa*. *Lotus decumbens*. (Sm. Engl. For.) *L. minor*, Bishop, in Edin. Phil. Journal, Jan. 1826. "This plant we had from Mr. Bishop himself, and I cannot hesitate in considering it the *L. decumbens* of Smith."

Magnolia grandiflora, flowered freely on the open wall. *Martynia proboscidea*: the seeds were brought from Mexico by Mr. Mair, and the plant is ripening fruit. *Musa sapientum*. *Nelumbium speciosum*. *Nicotiana vincæflora*.

Nymphæa alba, var. *canadensis*. This is easily distinguished from the European plant by the longer divisions of the stigma, by the very unequal calyx, by the outer petals being green on the outside, and by the rounded overlapping lobes of the leaves. *A. nuphar*, from Canada, also flowered in the pond this season. It seemed certainly new; but no memoranda having been taken at the time, little can be said, except that the flowers very nearly resembled the *N. advena*, while the habit of the plant was that of the *N. lutea*; the leaves are not raised above the surface of the water. Both

of these plants were presented to the Botanic Garden by the Countess of Dalhousie, and both flowered in July.

Persoonia lanceolata. *Polygala affinis*. *Pycnostachys cœrulea*. *Ruellia strepens*. *Spatalla bracteata*. *Stachys angustifolia*. *Thunbergia alata*. *Thunbergia angulata*. *Valeriana alliarifolia*. *Yucca filamentosa*. *Zephyranthes rosea*. — (*Jameson's Edin. Phil. Jour.* p. 385, 386.)

Gaultheria Shallon (Ericaceæ) has been raised perhaps for the first time in Britain, in the Botanic Garden at Glasgow, from seeds gathered by Mr. Douglas and Mr. Scouler on the banks of the Columbia river. Farther up the country they found extensive tracts covered with the blue flowers of *Phalangium esculentum* (Asphodeleæ), which a good deal resembles the common field hyacinths, and is a favourite article of food with the natives of Columbia. "In botanizing in this agreeable spot, they were charmed with the little *Calypso borealis*, and the graceful *Linnæa borealis*, both of which are well known to be equally common in the northern parts of the continent of Europe." — (*Brewster's Edin. Journ.* Oct. 1826., p. 379.)

Double Scotch Roses. — We have just seen the catalogue of Messrs. Austin and M'Aslan, in whose nursery at Glasgow most of the best sorts have been raised from seed, and where there is now the most complete collection in Britain. It consists of 210 varieties; and what renders it particularly valuable to purchasers is, that after each name are the initial letters of the colour of the flower, as B. blush, C. cream., D. dark, L. light, M. marble, P. purple, R. red, S. striped, T. tinged, W. white, Y. yellow. We are sure it would answer the purposes of the London nurserymen, if they would take the same trouble with their lists; for the names of roses, with very few exceptions, convey no sort of idea of their colours, and intending purchasers are puzzled and disheartened so as not to purchase so freely as if they knew what they were purchasing.

IRELAND.

Horticultural Society of Ireland, July 6. Six prizes were given for florists' flowers. At the annual exhibition of fruit ripened on open garden walls, eight prizes were given away; the first for peaches, to Mr. Wilkie, gardener to W. Gregory, Esq. (*Irish Farm. Jour.*)

Salt. "We know many Irish farmers who lately tried salt as a manure, and the result of their experiment establishes the justice of English recommendations on the subject. Sir Thomas Bernard recommends *one bushel to one acre*, on the good authority of a gentleman who made a series of experiments on salt as a manure, and held, that the proportion of a bushel to one acre answered best, and the land was more productive."

Farmers should not overlook this fact, that corn grown on land manured by sea-weed, or grown on sea land, is peculiarly rich and luxuriant. Whence arises this peculiar richness of growth, if not from the circumstance of the land being impregnated with salt? (*Irish Farm. Jour.*)

Grapes on an open Wall. In addition to other proofs of the fine season we have had, there were gathered the first week of November, two baskets of perfectly ripe and well-flavoured grapes, in large bunches, from an open, unprotected wall, in the garden of A. Semple, Esq. at Malahide, in the county of Dublin. (*Irish Farm. Jour.*)

Potatoes. The editor of the Irish Farmer's Journal relates, in his paper of Oct. 21., an experiment made in his own garden at Rathfarnham, near Dublin, to ascertain the effect of artificial watering on the potatoe. Though the water was not given in sufficient quantities, and apparently was poured on the drill, instead of in the furrow between the drills, still the result was in favour of watering. In the south of France and in Italy, about Avignon and Florence, for example, the potatoe is grown in the fields in rows, and

as soon as they are earthed up the water is admitted, twice a week, ten or twelve hours each time, in the furrows between the rows, so that the soil and subsoil is as thoroughly soaked as in watering grass lands. In the vale of the Arno, every description of crop is grown in drills, and watered in this manner; and although the practice of watering arable lands does not suit the cold and moist climate of the British isles, yet when it is tried, the process observed in countries where it is carried on successfully on a large scale, should be imitated. A correspondent of the Dublin editor judiciously recommends making holes with sticks among the roots of the plants, at least a foot deep, and pouring the water into them.

Experimental Farm. A prospectus is now circulating for the establishment of one in the vicinity of Dublin. We thought the days for such things had been gone by. There is quite knowledge enough on the subject of agriculture already, at least for the improvement of Ireland; what is most wanted for that country, is to embody the knowledge already known in the general practice of cultivators. There is no way of effecting this so judicious as that of every proprietor doing all he can for his own estate. Let him live there and devote himself to its improvement, or find a substitute who will; but whether he does or does not, an experimental farm at Dublin will be of no use to him. While we state this as our opinion, we do not mean to question the sincerity or patriotism of the proposer of this experimental farm, of whom we know nothing.

ART. III. *Horticultural Society.*

Sept. 5. No meeting was held in consequence of the meeting-room being under repair, but various articles were sent for exhibition, among which the following are the most remarkable:

A branch of a peach tree, bearing two perfect Peaches and a Nectarine, from Mr. James Arly, gardener to Frederick Reeves, Esq. of East Sheen, Surrey. Two Melons, grown in the open air without protection, from Mr. Wm. Greenshields, C.M.H.S., gardener to Richard Benyon de Beauvoir, Esq. F.H.S. A branch of a peach tree, bearing two perfect Peaches and a Nectarine, from Mr. John Baker, gardener to John Hemson, Esq. at South Weald, Brentwood. Dried fruit of the Kishmish Apricot and of the Date, from Sadi Ombark. Specimens of Lambert's Nut, from Aylmer Bourke Lambert, Esq. F.H.S. A seedling Yellow Nectarine, of great beauty, from Messrs. Lucombe and Co. of Exeter. (Noticed in Gard. Mag. vol. 1. p. 453.)

Sept. 19. *The following Papers were read:*—On planting the moist alluvial banks of Rivers with Fruit Trees. By Mr. John Robertson, F.H.S. Upon the Cultivation of Fuchsias. By Mr. James Smith, gardener to William Pinchback, Esq. of Camberwell, Surrey; communicated by John Wrench, Esq. F.H.S. Upon the Cultivation of Asparagus. In a letter to the Secretary. By Mr. George Sanders. An Account of nine varieties of Persian Melons. By Mr. John Lindley, F.L.S. &c., Assistant Secretary for the Garden. Notice of certain Vineries at various places in Scotland, with arched Hanging Trellises. By Mr. William Smith, under-gardener in the Arboretum department of the garden of the Hort. Soc. at Chiswick. On some new varieties of Plums. In a letter to the Secretary. By Thomas And. Knight, Esq. F.R.S. &c. President.

Among the Matters exhibited were the following:—Dried fruit of Zizyphus Jujuba (the Date of the Chinese), from John Reeves, Esq. F.H.S. of Canton. Blanched shoots of Symphytum officinale. These may be eaten like

the blanched shoots of Angelica, or Fenchio. Flowers of *Zinnia multiflora*, from Mr. Thomas Torbron, gardener to the Earl of Aberdeen, F.H.S. A Peach and Nectarine, combined in one fruit, from Mr. Cortessor, sent by John Trotter, Esq.

Oct. 3d. The following are some of the Matters which were exhibited. — Fruits of *Eugenia Jambos*, or the yellow Rose Apple, of *Psidium Cattleianum*, and of the Mango, from the Earl of Powis, F.H.S. Fruits of the myrtle-leaved and oval Orange, and specimens of the long-fruited *Capicum*, from Mr. William Buck, F.H.S. Fruit of *Cratægus tanacetifolia*, from James Robert Gowen, Esq. F.H.S. Fruit of the Madeira and Madras Citron, from Mr. Thomas Moffatt, F.H.S., gardener to the Viscount Sydney, F.H.S.

From the garden of the Society. — Roots of *Lathyrus tuberosus*. Plants of Chou à grosses côtes, vert et blonde, of Cove Tronchuda, (Portuguese Cabbage,) of varieties of the autumn Radish, and of five sorts of Gourds. Flowers of a plant related to the genus *Gilia*, since published under the name of *Gilia capitata* in the Botanical Magazine. This will become a valuable hardy annual.

Oct. 17th. The following Paper was read. — Report upon the new or rare plants which flowered in the garden of the Horticultural Society at Chiswick, between March, 1825, and March 1826. Part the 1st, being the tender plants. By Mr. John Lindley, F.L.S., &c. Garden Assistant Secretary.

Exhibited from the garden of the Society — Flowers of *Rosa Champneyana*, of *Oncidium barbatum*, an extremely rare Brazilian epiphyte, and of *Lobelia tupa*, a rare herbaceous plant from the island of Juan Fernandez.

Nov. 7th. The following Papers were read. — On the varieties of Caroons, and the methods of cultivating them. By Mr. Andrew Mathews, A.L.S. Accounts and descriptions of the several plants belonging to the genus *Hoya*, which are cultivated in the garden of the Horticultural Society at Chiswick. By Mr. James Traill, under gardener in the ornamental experimental department.

The following are some of the Matters which were exhibited. — A Pomegranate ripened upon an open wall. From Mr. William Donaldson, gardener to the Marquis of Downshire. A capsule of *Nelumbium speciosum*, and four sorts of Pears, grown at Valleyfield, in Scotland. From Mr. Alexander Stewart, F.H.S. *Psidium pomiferum*, or white Guava, from the garden of Mrs. Marryat, at Wimbledon. Alexanders, a vegetable formerly cultivated instead of Celery, from Mr. John Haythorn, gardener to the Lord Middleton, F.H.S. A specimen in spirits of *Taxodium distichum* (deciduous Cypress) in seed; ripened in England, and flowers of *Bidens procera*, and *Tagetes corymbosa*, handsome new herbaceous plants, from Aylmer Bourke Lambert, Esq. F.H.S. Fruit of *Berberis Asiatica*, a rare Nepal shrub, from William Wells, Esq. F.H.S. Green-fleshed and Rock Melons, the produce of cuttings struck from Vines which had borne a summer crop of fruit, from Mr. Charles Harrison, F.H.S.

From the garden of the Society. — Flowers of 24 sorts of *Chrysanthemums*, and of a new species of *Oncidium* from Brazil, nearly allied to *O. flexuosum*.

Nov. 21. The following Papers were read. — Description with plans of a Hot Wall. In a letter to the Secretary. By Mr. John Hay, C.M.H.S. An account of two varieties of the Mango fruit, which ripened in the garden of the Earl of Powis, at Walcot Hall in Shropshire. By Joseph Sabine, Esq. F.H.S. &c. Secretary.

The following are some of the Matters which were exhibited. — Curled Lilac *Chrysanthemum* sporting into curled Pink, from Robert Barclay, Esq. F.H.S.

From the garden of the Society. — Plants in flower of 31 sorts, and also flowers of four other sorts of Chrysanthemums. Seven sorts of Gourds, and eight sorts of Savoys. Trooper's Helmet, and lemon queen Pine Apples, and 17 sorts of Apples.

Also a Communication from the Council, stating, that Mr. Turner, the Assistant Secretary, having abused the confidence which the Society had placed in him, has been discharged from his situation. Owing to the artful manner in which Mr. Turner contrived to deceive the Officers of the Society, and the successive Auditors for the last seven years, it would have been impossible to have submitted this report for a great length of time, if a list of the persons from whom he had received compositions, and other payments, without the usual vouchers, had not been obtained from himself. After giving him credit for the payments for annual contributions, which he made in the names of individuals from whom he had received compositions, and the net produce of his effects and furniture, the loss to the Society will amount to about £840.

Chiswick Garden, Dec. 4th. The show of Chrysanthemums here this autumn is as fine as usual. Part are trained against the walls, but the general collection, nearly 50 sorts, are in pots under a glass roof. It is worthy of notice, and of *blame*, that in this collection in the garden, and in the selections exhibited in the room of the Society in London, the different sorts are mixed indiscriminately, instead of being grouped according to their colours. It would be a waste of room to repeat here what we have so frequently advanced in favour of the latter method over the former; of variety over mixture; but we must state our opinion, that it is discreditable to those who direct the affairs of the Society, to exhibit both to young gardeners, and persons who visit the garden and attend the meetings, so decided an instance of bad taste. In some matters of this kind there may be room for disputes, but this is so simple a matter, one in which there is so absolute a right and wrong, that it is without excuse. The influence of example is great even in little things.

Garden Regulations. "Sir,—I observe that in your Third Number, (Vol. I. p. 314.), you have printed the regulations for the admission, &c. of labourers into the garden of the Horticultural Society at Chiswick; now, I confess, I am somewhat surprised that you, both as a friend to gardeners, and as a man of common sense, when publishing these regulations, should not have animadverted upon them in the manner they deserve. You must be aware that they are held in derision by all the nurserymen and master gardeners about London who know any thing about them, and laughed at by the young men themselves. If so many regulations are necessary to manage twenty or thirty country lads, who have no other object than that of learning their profession, what is to be done in large establishments? Pray are there as many regulations for the clerks in Regent Street? or if there are, what is the use of them, since we see one of them has been carrying on a system of fraud and forgery for several years without detection? The whole classification, and rules and regulations published respecting the garden, and the subscribers and non-subscribers, &c. &c. I pronounce to be in a contracted and illiberal spirit, unworthy of Englishmen. I wonder indeed that the members of a (professedly) liberal society should quietly submit to be classed and regulated, and starred and scheduled, like the items in a paper of assessed taxes?
HORTULANUS."

We were much of the same opinion as our correspondent, when we noticed the report to which he alludes (Vol. I. p. 313.), but did not think it worth while saying more at the time than giving a hint of our opinion, (p. 315. Art. 11.) As to the 17 regulations for the labourers, we should probably not have

copied them into our pages, had it not been to answer a query, (Mr. Brown's) noticed at the time on the cover. Rules and regulations to a certain extent cannot be done without; but there should always be enough of liberty to call forth the exercise of good sense and discretion both in master and servant. — *Cond.*

Application for Grafts, Cuttings, &c. “Sir, — It appears, by a notice in the 4th vol. page 204. of the Transactions of the Horticultural Society of London, that the Fellows are prohibited from making application to the exhibitors of fruits and flowers for grafts, cuttings, &c. of the articles exhibited; and by the *recent regulations*, subscribers to the Society's garden are the only persons who have any prospect of being supplied therefrom with those or any other articles; other Fellows are referred to the nurserymen, to whom distributions have been made, where they may purchase such plants as have been supplied to them from the Garden. Now, under these circumstances, it would be a very great accommodation to the *unstarred fellows*, if lists were to be published annually by the Council, of the names of those nurserymen, with their places of residence, who *stand in the sunshine of the Secretary's favour*, and have plants, &c. for sale, which have been supplied to them from the Society's garden, in order that the *non-subscribing* Fellows (particularly those residing at a great distance from London) may know where to purchase those articles, which, by an *ex post facto* law, they are not permitted to obtain by other means. Such an announcement would to myself and many other of the Fellows under similar circumstances, be particularly useful, especially during the planting season; but from the want of such a list, we are deprived of the power, even by purchase, of supplying our wants, and the nurserymen lose the sale of many plants for which they would otherwise receive orders. I am, Sir, &c.
“20th Nov. 1826.” “MENTOR.”

Spanish Hoe. The engraving and description of the Spanish hoe sent by Mentor, we have not been able to find room for in this Number, but we have sent the hoe to Weir's Manufactory, Oxford Street, where it is manufactured of different sizes, and at different prices. — *Cond.*

The term Labourer. — An Apprentice writes, “By the regulations of the Horticultural Society's garden, I find, ‘Candidates for admission must have been educated as *gardeners*,’ yet in these regulations they are called *labourers*. Is this consistent and proper? If a young man who has been ‘educated,’ that is, I presume, has served an apprenticeship to gardening, is by this new nomenclature of the Horticultural Society, to be called a labourer, what term is to be applied to those of the fields, the roads, and of the hods and barrows, who have hitherto been called labourers? Are they boors, or peasants, or men of burden, or what else?” App. need not fear: the common uses of language will not be departed from by society in general for any one society in particular. Till they propose something better than this, he may abide by the nomenclature given in our Encyclopædia (§ 7377.) The great thing for App. to consider, is, how to render himself worthy of the term gardener. — *Cond.*

ART. IV. *Covent Garden Market.*

The supplies of every description for the last quarter have been ample, the quality excellent, and the prices moderate. Apples and pears are

cheaper than they have been for several years. The following may be considered as the December prices :

Potatoes from 3s. to 6s. per cwt.; savoys from 9d. to 1s. 6d.; white cabbages 8d. to 1s. 6d.; red ditto from 8d. to 1s. 6d. per dozen heads; horseradish from 2s. to 4s., brocoli from 6d. to 1s., and celery from 9d. to 1s. 4d. per bundle; carrots from 2s. 6d. to 5s., turnips from 1s. to 2s. 6d. per dozen bunches; cos lettuces from 1s. to 2s. per score; radishes from 1s. 6d. to 2s. 6d. per dozen hands; spinage from 9d. to 1s.; apples for common use from 1s. 6d. to 2s. 6d.; choice eating ditto from 4s. to 7s.; pears from 2s. 6d. to 7s.; quinces from 2s. to 3s. 9d.; and onions from 2s. to 2s. 6d. per half sieve, about a third of a bushel; oranges from 5s. to 15s.; and Spanish chesnuts from 3s. to 6s., French chesnuts from 2s. 6d. to 5s., Spanish hazle nuts from 3s. to 4s. 6d., and French walnuts from 2s. 6d. to 4s. per imperial peck.

To such as are interested in knowing the prices of Covent Garden Market weekly, we would recommend the *British Farmer's Chronicle*, a spirited and ably conducted newspaper.

Scotch Potatoes. The superior flavour and dryness in potatoes grown in the northern counties of England and in Scotland, to those grown in the midland counties, have always been recognised by us, but never more so than during the present season. We would ask any of our readers who have doubts on the subject, to try the purple streaked roundish potato, now sold by Mr. Holland and others in Covent Garden Market. Even the produce of these potatoes for one, and sometimes for two years, is superior to that from the common sorts; and so much so, that we do not hesitate to recommend all those who grow their own potatoes, whether late or early crops, to have their sets every second year from Lancashire or Fifeshire.

ART. V. *Calls at Suburban Gardens.*

Syon Gardens, Dec. 4th. — We noticed in April last (vol. i. p. 349.) the commencement of improvements at this place, and what we then anticipated has been even more than realized. The kitchen garden is entirely renovated; the compartments and walks differently arranged, and one range of hot-houses, and another of pits completed, which, as far as our knowledge goes, are not equalled by any thing in the kingdom. The range of hot-houses exceeds 400 feet in length, and is intended for pines and early forcing. This magnificent range is constructed entirely of metal, even to the wall-plates, the doors, and the framing of the sashes. We know not which to praise the most, the sound practical knowledge evinced in the general plan, or the tradesman-like manner in which it is executed. Nothing that we have ever seen on so large a scale, comes at all up to it; we have not room at present to go into details, but Mr. Forrest has promised us a plan, and some account of the preparation of the borders, &c., with which we are sure our readers will be highly gratified and instructed. We can hardly think that any gentleman who sees these light and durable metallic structures, and the curvilinear houses of Messrs. Bailey, will ever erect wooden ones. More especially when it is known that the difference of expence in the first instance is but trifling. The manufacturers who, with the assistance of Mr. F. and other experienced gardeners, have brought the construction of this description of metallic hot-houses to so much perfection, deserve the thanks of all horticulturists; they are Messrs. Richards and Jones, Cheapside, Birmingham, who erected another most extensive range under Mr. Forrest's direction, at Eaton Hall, in Cheshire.

They have also put up some extensive erections for Earl Powis, a nobleman to whom the horticultural world is deeply indebted, for the Hon. R. Clive, and various other noblemen. They deserve every encouragement, and as a proof that they are receiving it, we may just mention, that in addition to what has been done at Syon, the same manufacturers are now engaged in erecting a most extensive range of the same kind at Alnwick Castle. Messrs. Jones and Clarke, of Birmingham, who erected the magnificent metallic conservatories at the Grange and Wollaton Hall, and Messrs. Bailey, of London, who erected the grand glass dome at Bretton Hall, are equally entitled to praise and to patronage.

The back sheds to these hot-houses are now fitting up; besides potting benches, places for pots, tan, &c., they will contain an Oldacre mushroom-house, a fruit-room, the journeymen's living room, and sleeping apartments, &c. The pits are on an excellent plan, which we shall, on a future occasion, describe. We were much gratified to see wooden shutters introduced for covering them, a mode of protection from cold and rain superior in our opinion to any other for pits, frames, and even hot-houses and green-houses. That it is a profitable mode it may be sufficient to mention, that it is adopted by Mr. Wilmot, who grows pines and forces strawberries extensively for the London market.

Mr. F. occupies one of the best head gardeners' dwelling-houses which we have seen, from the designs of Mr. Parsons, and surpassed only by that in the gardens of Earl Surrey at Worksop Manorhouse, Nottinghamshire, erected from the designs of Mr. Abraham, from whom and Mr. Acon, we expect a communication on the subject. To give an idea of the order and method which enters into the system of planning improvements and doing business at Syon, Mr. F.'s dwelling-house is so placed between the botanic and forcing gardens, and commands such a full view of both ranges in the forcing department, that, from his window, he can see even into the interior of the houses. The principal walks are also in full view, so that no movement can be made that escapes his notice, nor can an individual enter or go out of the garden or pleasure-ground without being observed. Such is the neatness, order, and high keeping of the forcing department, that a man is kept entirely for the purpose of cleaning the paths of the hot-houses, looking after the back sheds, the stock-holes, fuel, and ashes, and for scouring the doors of the furnaces, which shine like cast-iron parlour stoves. Setting aside the neatness of this management, the effect of cleanliness in promoting the health of plants is too generally admitted to require observation; good management in the stock-holes is a great saving of fuel, and by keeping the furnaces in such high order, they will last double the usual time.

Nothing can be more gratifying than to see a nobleman employing a part of his income in so judicious and spirited a manner; and this case in particular affords a proof of what we have frequently asserted, that much more would be done by the landed proprietors of this country, if gardeners and other managers of superior talents and judgment were more common.

ART. VI. *Catalogue of Books for a Garden Library.*

We take up this subject at the request of several correspondents, and in consequence of conversations which we have had with various gardeners about London and in the country in the course of a late three weeks' tour.

We have long entertained the idea, and expressed it in our *Encyclopædia of Gardening*, that a library of books ought to form a part of the furniture of every garden, for this reason, that a gardener can no more acquire his profession without books than he can without tools, and because the wages of gardeners, and especially of journeymen, are inadequate to every individual's purchasing such books as are requisite for him.

We take it for granted, that no man can ever become fit for the duties of a master gardener, without possessing what may be called a tolerable school education; such as writing, arithmetic, geometry, drawing, and, for the sake of botanical names, some acquaintance with the rudiments of Latin. This is exclusive of professional education, which, besides the practice of the different operations of gardening, should consist of a considerable extent and variety of reading on the various departments of vegetable culture and territorial improvement. As things at present stand, very few parents who bring up their children to gardening are able to bestow on them the requisite elementary education; and we are sure it will be at once allowed, that journeymen gardeners, as they are now paid, can never afford to purchase the professional books which they would require to read. It may be asked, after this statement, how it happens that there are any good gardeners at all, and how gardening goes on so well as it does? To which we answer, that the few who are properly qualified to act as master gardeners, have attained thereto by a fortunate concurrence of circumstances as to parentage and local education, or by extraordinary exertion, and the denial, in great part, of even the necessities of life for a series of years while working as journeymen. Many journeymen are unwilling or unable to undergo these privations; under their pressure the exertions of others are weakened; and in no case are they what they might be, or what the art requires. This is the reason why there are so very few first-rate gardeners, and why, as we have often said, there is not one garden in a hundred, whether large or small, that affords to its owner half the enjoyment which it might do.

But, independently of farther improvement, even to maintain gardening and gardeners in their present state, why should young men acquiring that art be subjected to greater privations than young men acquiring other arts or trades? Journeymen carpenters and smiths are allowed such wages as enables them to buy their tools; why are not journeymen gardeners allowed similar wages, in order to enable them to buy gardening books, which, it cannot be denied, are just as necessary to them as spades or rakes? Gardening is now quite a different thing to what it was twenty years ago; more than double the number of exotic plants are now in culture, and nearly the same proportion of new fruits. Forcing by flues, steam, fermenting substances, &c. is now carried to an extent never before contemplated. Discoveries in chemistry, the doctrine of heat, meteorology, geology, and vegetable physiology, have been brought to bear on the art of culture in such a way, that there is not a single operation, whether on the soil or on plants, that has not undergone improvement. If we compare the present state of garden buildings, structures, and implements, we shall find them so various, and so greatly superior to what they were twenty years ago, that a gardener, to ascertain which is best or most suitable to his case, must not only see and use them, but know something of the mechanical or other principles in which their excellence consists. Add to all this, that a gardener, however limited the sphere of his operations, is more or less employed as an artist, or man of taste, in designing and laying out walks, roads, and plantations of various kinds; and this in scenes of different degrees of extent and importance, from the flower garden to the park. When to these points are added the knowledge of the uses of timber, with a view to profitable planting, and of fencing, draining, irrigation, and various other parts of agriculture connected with gardening, it will not be denied, we think, that

a gardener cannot be even moderately acquainted with his profession, or fit for even an ordinary situation as master, without

1. Such a preliminary or elementary education as will prepare his mind for deriving instruction from reading; and

2. A course of reading, both varied and extensive, on the subject of his profession.

If, therefore, the present improved state of gardening science and botanical discovery is to be adopted, diffused, and perpetuated in the practice of gardening, there is only one way of accomplishing it, that of making these improvements familiar to every gardener. This can only be done by giving every gardener a better education, and a more ready access to books on the subject of his profession; and this again we know no means of effecting otherwise than either by raising the wages of journeymen gardeners, so as every individual might buy books for himself, as every journeyman carpenter does tools for himself, or by every master keeping a library for the use of his journeymen. If one of these methods be not adopted, and that speedily and generally, it is easy to foresee that gardening improvements, as soon as they are made, will be forgotten, by not being embodied in practice; and that the art will either stand still or retrograde.

It has been suggested to us by more than one correspondent, that institutions like those recently established for mechanics, or travelling libraries, like those in use in East Lothian, might be adopted; but the isolated situation of gardeners, unless perhaps about London, Edinburgh, and Dublin, renders the former plan inapplicable, and the latter is more adapted for general reading than for elementary and professional study. Though, therefore, the system of reciprocal borrowing and lending might be adopted in connection with our plan, yet, after all the consideration which we have been able to give to the subject, we are convinced that the object in view can in no way so cheaply and effectually be attained, as by every garden having its own library, as it has its own tool-house.

Till, therefore, the wages of a journeyman gardener are brought nearer to those of a journeyman mechanic, we really think it a duty on their employers to supply them with books. By employers, we must be understood as meaning the proprietors of gardens, and we do most respectfully submit to all such our humble opinion, that it would only be an act of justice, and much for their own interest to do so. They would immediately produce more faithful and industrious servants, because the library would be felt at once as increase of wages and an act of kindness; and gentlemen, however high in rank, cannot be ignorant, that in all kinds of labour, from the lowest and most mechanical to the highest and most intellectual, men work as they are paid, and are attached to their employers in proportion as they are treated by them with kindness. That the moral habits of young men would be improved by spending their evenings in such a library must be obvious, and no longer being obliged to deny themselves the requisite quality and quantity of food, (for that is the fact), in order to be able to buy a few books; they would be able to live better and work harder. Every master gardener knows that a common labourer will dig or hoe more ground per day than any journeyman gardener; and the reason is, the former has generally three or four shillings a-week more wages than the latter, and consequently lives better and is stronger. But farther details we consider are unnecessary to show the necessity and advantage of affording the means of a superior degree of instruction to journeymen gardeners. To afford them this means by the establishment of garden libraries, we consider preferable to at once raising their wages to an *adequate extent*, for various reasons, but to this subject we shall return at a future opportunity.

A few years ago it might have been necessary, as a preliminary to what we have recommended, to combat certain objections to enlightening the

minds of those who are, or seem to be, destined to live by bodily labour; but such is the progress of mind in this age, that opinions which it was necessary to argue and discuss only a few years ago, are now taken for granted. Gardeners, from their isolated situation and the nature of their employment, always have been, and always will be, a sober, moral, harmless, and comparatively reasonable and even polished class of servants. Women are much better judges in this matter than men, and we would ask any female servant in a gentleman's family, whether the conversation of grooms and other attendants on dogs and horses, and the conversation of gardeners are the same sort of thing? The same question might be put in the drawing-room, with reference to the tastes and pursuits of gentlemen. There is scarcely any instance of revolution being attempted, or any of the more atrocious crimes committed by gardeners, and this must always be the case from their isolated situation, and the nature of their profession. Notwithstanding this, we do not expect that every master will come at once into our scheme, but a number, we trust, both of head gardeners and of their employers, will give it their serious consideration, as being proposed for the good of all parties; some, we have no doubt, will act upon it, not only for the reasons we have mentioned, but on general principles of benevolence; and others from the rational motive that more confidence is to be placed in the skill, honesty, and attachment of intelligent and comfortably circumstanced, than of ignorant and depressed dependants.

Having shown, as we think, the necessity of garden libraries, we shall next submit some general ideas of the mode in which they ought to be formed, premising that we think them equally necessary in nurseries, and other commercial gardens, in horticultural, botanic, or other public gardens, as in private gardens, and that wherever the master has under him a single hand, whether journeyman gardener, or garden labourer, male or female, in short, wherever there is a tool-house, there ought to be a library, and every garden, however small, ought to have its books as well as its tools.

In the gardens of private gentlemen, the head gardener, having got the consent of his employer, should get a room of suitable size, dry, and well lighted and aired, fitted up with book shelves, &c. in the garden, or where his men are lodged. If a suitable room already exists, which is not likely to be the case in one garden of a hundred, then all that will be necessary is a proper book-case; but gardeners in general, both masters and journeymen, are very indifferently lodged in the back sheds of hot-houses, and therefore, we think it likely that in many cases a room will require to be built, or one already existing devoted to and fitted up for the particular purpose of containing the books, and as a place of reading and study. But as whether a new or old room is used, the books will be best kept in a portable book-case, that may be prepared by any carpenter immediately, and one made of deal eight feet long and six feet high with moveable shelves, will hold all the essential and desirable elementary books; a complete professional collection will require a second case of the same size. Such a book-case, or even one of half the size for a small collection, may be kept in any convenient place, till a proper one is prepared for it. We leave this part of the business at present entirely to the management of master gardeners, till we can find time to give some plans for gardeners' dwelling houses, and the arrangement of garden sheds, fruit-rooms, &c. improvements in which are very much wanted in every part of the country. In the mean time we would urge the necessity and advantage of every garden, however small, having its garden book-case. It is almost needless to add, that in the changes of master gardeners, the books should be inventoried from the one to the other, in the same manner as the tools.

Where the master is unwilling, and the head gardener willing but unable, to sink the money necessary to purchase a proper garden library, we would

suggest to such gardeners to get the consent of their master to borrow the necessary sum, which might probably be lent by the master himself on the security of the books, which would always be on the master's premises, engaging to allow interest quarterly, and something additional to form a fund for repaying the principal out of their wages, and to retain from the weekly payments of their labourers, apprentices, and journeymen, such a sum as would enable him to do so, and to leave a little profit; but not to let this sum exceed 15 per cent. on the purchase money of the library. Some gardeners might advance the money for this purpose themselves, or borrow it from some humane clergyman, medical man, or wealthy tradesman, or farmer, &c., in the neighbourhood; and the arrangement could be perpetuated by every master transferring, when he left his place, the library, with its debt and profits to his successor.

Nurserymen and other commercial gardeners cannot be expected to come at once into our plan, and build a library or reading-room for their men; but we hope there are some of them to be found, who will be at the expence of a book-case, and a few books, which, to lessen trouble, might be given in charge to the foreman or shopman, to let out to such as choose to read them, the value being deposited, if deemed necessary. Probably it might also be adviseable to make a small charge on each volume borrowed, to be allowed to the foreman or shopman for the trouble taken by him, after the hours of labour, in giving out and receiving books; — but this, and various matters we leave for the present to such nurserymen and others as may adopt what we recommend. We may hint, that if the shelves in these book-cases are kept about an inch from the back boards, all the books can easily be kept dry in moist weather, by lighting a lamp, and whelming a flower-pot over it in the bottom shelf, and then closing the doors of the book-case.

Botanic, Horticultural, and other public gardens, and also Provincial Horticultural Societies, generally have libraries; but none of these, as far as we know, contain elementary books, and not many are very complete in professional works; or if they are pretty full in the latter, are they so available by the working gardener, as to answer the end which we propose. The library of the Horticultural Society in their house in London is considerable, and will in time be one of the first of the kind in the world; but though a few books are lent to the gardeners at Chiswick, there is no regular garden library there, for the purpose of the working gardener, and no elementary books. In our opinion a library, both elementary and professional, for the working gardeners, should be a main object with such a Society. In the Royal Gardens at Kew, the men are not better paid than in the nurseries, and they have no library whatever. Of Kew, we have no immediate hopes of amendment; but the Horticultural Societies and Provincial Botanic Gardens, we have little doubt, will, in due time, set about accomplishing what they must agree with us in considering as the only effectual and secure method, not only of promoting the progress of gardening, but of embodying in general practice the present highly improved state of theoretical knowledge in the art. In fact, most of these public gardens and societies have, to a certain extent, adopted the plan we are recommending, as far as respects professional books; but none of them, as far as we know, have the school-books requisite to enable a gardener to work out for himself a certain degree of preliminary education, without which professional books will not yield him that instruction for which they are intended.

Having now shown the necessity of garden libraries, and developed our plan of forming them, we have next to recommend it to the consideration of our readers, and if they approve of it, to request their assistance and advice in carrying it into execution. We confidently rely on every master gardener and nurseryman seconding our efforts, either by doing

something themselves, or if they have little opportunity, by stimulating others, who have more in their power. Above all, we hope that no master gardener of any description will be unfavourable to the plan, from a fear of rendering his journeyman better informed than himself. This motive, to which we are all prone, may be disguised under various others, and it will probably be the greatest obstacle that the garden library scheme will have to contend with; but a good master gardener, like a good parent, will consider the journeymen and apprentices under his care as an important trust — as his children; and whatever progress they make, as so much made by a part of himself; so much added to the reputation of his family, and for the credit of which he, like every other head of a family, becomes entitled to the principal share. A master who acts on this principle, and is the means of leading his journeyman to know ten times more than himself, will be much more respected and esteemed by them and by his fellow masters, than if he were the means of preventing them from obtaining a library by any ostensible reason whatever, — the reason alluded to in this case would always be assigned or suspected — probably even when it was otherwise — and hence those masters who have had least advantage from books themselves, should in their own defence be the most anxious to insure those advantages to others. As to master gardeners under thirty, they may go hand in hand in acquirements with their journeymen in every thing; those under forty in most things, and those above that age in many things. All the three classes, too, should look to the advantages that will result to their children, male and female.

Having shown the necessity of, and explained and recommended our plan, we shall next submit a list of books for a garden elementary library, or such books as are preliminary to every description of professional knowledge. Any young man of ordinary capacity and industry who has access to these books, and who can already read and write a little, may go through by himself, such a course of instruction, as will fit him for the highest branches of his profession, and enable him to choose such other books as are necessary to pursue knowledge of all or of any kind as much farther as he chooses. All this may be done by a solitary young man; but if two or three young men are together, then the business of self, or rather mutual instruction, may go on with rapidity, ease and pleasure, as we shall afterwards show. We shall only further add, that we have submitted the following list to a highly talented friend, the author of some of the best elementary works now in use, and the master of one of the first academies in the neighbourhood of London. This gentleman has written for us a course of directions for every section, by which young men may proceed in the most advantageous manner in the study of each. These we shall print in our succeeding number, with such other hints or suggestions as may be sent us by other friends, or enemies, to this important measure.

In general the following books may be had from any bookseller; but as particular books are sometimes scarce, we have always put down two or three of the same kind, or which treat on the same subject.

All the books are numbered in series, by which in giving an order to a bookseller, or in the correspondence of one gardener with another, the number may be used instead of the title at length.

All those in italics we consider *essential* for an elementary library.

All those to which no mark is prefixed are such as may be substituted for the books in italics.

Those which are *desirable*, though less essential, are marked (*).

Those which are necessary to a *sufficient library*, but which may be dispensed with if the Encyclopædia Britannica, and its Supplement, are purchased, are marked (†).

SECT. I. — For the Purpose of teaching a few Gardeners, or other Young Men or Women, assembled for the Purpose of Mutual and Social Improvement, how to proceed.

1. *Instructions for conducting Schools on the Madras System.* London, 3d edit. 1812. 12mo. 1s.
2. *The Madras School Grammar; or new system reduced to questions and answers.* 12mo. 2s.
3. *The Madras School; or elements of tuition.* 8vo. 1815. 12s.
4. *Hollingsworth's Recommendation of the Madras System.* 8vo. 2s. 6d.
5. *Improvements in Education as it respects the industrious class of the community; containing, among other important particulars, an account of the institution for the education of one thousand poor children.* London, 3d edit. 1806. 8vo. 1s. 6d.

SECT. II. — English Grammar and Composition.

6. *Mavor's English Spelling Book,* 12mo. 1s. 6d.
7. *Murray's English Grammar.* 12mo. bound. Longman and Co. 4s.
8. *Murray's Exercises to the English Grammar.* 12mo. bd. Longman and Co. 2s. 6d.
9. *Murray's Key.* 12mo. bd. Longman and Co. 2s. 6d.
10. *Fulton's Pronouncing Spelling Book.* 12mo. 1s.
11. *Fulton and Knight's English Dictionary.* 12mo. 4s. 6d.
These two books of Fulton's are decidedly the best for Scotchmen.
12. **Sir John Sinclair's Observations on the Scottish dialect.* Lond. 1782. 8vo. 4s.
13. *Smith's English Grammar.* Whittaker, 1822. This work contains an ample store of Scotticisms.
14. *The Essentials of English Grammar, on a practical plan, for the use of classical and French schools, and private learners. With an Appendix, &c.* By a Member of the University of Oxford. 18mo. 3d edit. bd. Chapple. 1s. 6d.
15. **Angus's New System of English Grammar, with exercises and questions for examination, interspersed with critical notes and explanatory observations, chiefly of vulgar Anglicisms, Scotticisms, examples of bad arrangement, of ambiguity, &c.* Glasgow. 1812. 12mo. 1s. 6d.
16. *Errors of Pronunciation, and improper expressions, used frequently, and chiefly by the inhabitants of London. To which are added those in similar use, chiefly by the inhabitants of Paris.* Lond. 12mo. Lackington and Co. 3s. 6d.
17. *Scotticisms, vulgar Anglicisms, and Grammatical Improprieties corrected, &c.* By Hugh Mitchell, A. M. Glasgow. 1799. 1s.
18. **Beattie's Scotticisms, in alphabetical order.* 1s.
19. **Bank's English Master; or Student's Guide to Reasoning and Composition; exhibiting an analytical view of the English language, of the human mind, and of the principles of fine writing.* 8vo. 10s.
20. **Rees's Todd's Johnson's Dictionary.* 18mo. 3s.
21. *Sheridan's Pronouncing, Explanatory, and Spelling Dictionary, improved by Jones.* London. 12mo. 3s. 6d.
22. *Brown's Union Dictionary, containing all that is useful in Johnson, Sheridan, and Walker.* London. 12mo. bd. 10s. 6d.
23. *Crabb's English Synonymes explained.* 8vo. 1s.
24. *Synonymes of the English Language critically and etymologically illustrated.* 12mo. bd. 4s. 6d.

SECT. III. — Languages.

We decidedly recommend the natural or Hamiltonian method of acquiring languages, firmly convinced from our own experience, from observation of the modes of teaching languages in foreign countries, from Mr. Dufief's work, and from a Dissertation in the *Edinburgh Review* (June 1826), that it is far preferable to all others. It is stated in the *Edinburgh Review*, that "a person of mature habits, eager and energetic in his pursuits, and reading seven or eight hours per day, might, though utterly ignorant of a letter of Greek, learn to construe the four gospels, with the most punctilious accuracy, in three weeks by the key alone. Some children, utterly ignorant of French or Italian, would learn to construe the four gospels, in either of these languages, in three weeks; the Latin in four weeks; the German in five weeks." We have no hesitation in asserting, that a young gardener, by devoting an hour every day to reading Mr. Hamilton's Keys for three years, without the trouble of committing a single sentence to memory, might acquire a very tolerable knowledge of Latin and French, and as much Greek as he could have any occasion for.

A gardener ought to have at least a slight knowledge of Latin to enable him to understand botanical descriptions, and the meaning and government of specific names, as well as for the continual recurrence of fragments of, or derivations from that language, occurring almost in every book. He ought to have a slight knowledge of Greek, because of it the generic names, and the names of classes and orders, are composed; and he ought to know something of French, as a language continually occurring in books, and as the names of our best pears, and various other fruits and vegetables, are in

that language. Dutch, German, Italian, and Spanish, gardeners in general may dispense with : but as some of them may have occasion to visit, or probably to accept employment in, or emigrate to, countries where these languages are spoken, or may be ambitious of knowing something of them for other reasons, we have inserted the books necessary to acquire them.

We shall just add, that it is some recommendation to Mr. Hamilton's books, in addition to others of a more essential nature, that, being chiefly biblical, the young gardener may use them at church on Sundays.

SUBJECT. 1.—Illustrative of the Natural Method of acquiring Languages.

25. *Dufief's Nature displayed in her mode of teaching languages to man, adapted to the French language.* 2 vols. 8vo. bds. 1l. 4s.
26. *Edinburgh Review* for June, 1826. 5s.
27. *Scotsman Newspaper*, September 6th, 1826. 7d.

SUBJECT. 2.—Latin.

28. *The Gospel of St. John, in Latin, adapted to the Hamiltonian System, by an analytical and interlinear translation.* 4s.
29. *Epitome Historiæ Sacræ.* 8vo. 4s.
30. *Latin Grammar.* 12mo. sewed. 1s. 6d.
31. *Ainsworth's Latin Dictionary abridged.* 8vo. bd. 15s.
32. *Jones's Analogiæ Latinæ; or development of those analogies by which the parts of speech in Latin are derived from each other. To which is annexed a copious vocabulary, constructed on those analogies, and adapted for learners in private and in public schools.* 12mo. bds. 3s.
33. *Thornton's Virgil.* 12mo. 5s.
34. *Illustrations to Thornton's Virgil.* 2s.
35. **Latin Testament.* 12mo. 3s.

SUBJECT. 3.—Greek.

36. *Hamilton's Gospel of St. John, in Greek.* 8vo. bds. 6s.
37. *Blomfield's Greek Grammar.* 4s. 6d.
38. *Donnegan's Greek and English Dictionary.* 8vo. 1l. 11s. 6d.
This is the best of all Greek dictionaries for a gardener, having, besides other advantages, all the ancient Greek names of plants, with their corresponding Linnean names.
39. *Analogiæ Græcæ.* 12mo. 3s. 6d.
40. *Schrevelius's Greek Lexicon, in English, by Steel.* 8vo. bd. 12s.
41. **Valpy's Greek New Testament.* 12mo. bd. 5s.

SUBJECT. 4.—French.

42. *Hamilton's French Gospel.* 8vo. sewed. 3s. 6d.
43. *Hamilton's French Grammar.* 8vo. sewed. 2s.
Dufief's Nature Displayed, &c. 2 vols. 8vo. bds. (introduced before. See No. 25.) 1l. 4s.
44. **La Bagatelle* for beginners. Two parts. 12mo. 3s.
45. **Duverger's English and French Idioms compared.* 12mo. 5s.
46. *Parin's French Fables.* 4s.
47. *Boyer's French and English Dictionary, abridged.* 4to. bds. 13s. 6d.
48. *Dacier's British Pupils' Explanatory French Pronouncing Dictionary.* 12mo. bd. 5s. 6d.
49. *Douville's Speaking French Grammar in Sixty Lessons.* (Boosey and Sons.)
50. **Lenoir's Logographic-Emblematical French Spelling Book; or, French pronunciation made easy: being a method by which any child, four or five years old, and of ever so slow an apprehension, will, in a few months, be enabled to read French fluently, and pronounce it as if he were a Parisian born. To which are added instructions, to enable any person to put this method in practice.* London. 8vo. 4 pl. 5th edit. 15s.
51. *French New Testament, from the Bible Society.* 2s. 6d.
52. *Le Bon Jardinier, &c.* Paris. 12mo. 15s.

SUBJECT. 5.—Dutch.

53. *D. Hasendonck's Dutch Grammar.* 12mo. bd. 5s. 6d.
54. *D. Hasendonck's Vocabulary.* 12mo. bd. 3s. 6d.
55. *Werninck's Dutch Dictionary.* Pocket-size. bd. 12s.
56. **Dutch New Testament, from the Bible Society.* 2s. 6d.

SUBJECT. 6.—German.

57. *Hamilton's Key to the Gospel of St. John, in German.* 4s.
58. *Rombotham's German Grammar.* 12mo. bd. 6s. 6d.
59. *Rabenhorst's German Dictionary by Noehden and Lloyd.* Pearl. 12mo. 13s.
60. **German New Testament, from the Bible Society.* 12mo. 2s. 6d.
61. **Loudon's Encyclopædia of Gardening, in German.* 14 r. thr., or 3l. 3s.

SUBJECT. 7.—Italian.

62. *The Gospel of St. John in Italian, adapted to the Hamiltonian System.* 4s.
63. *Veneroni's Italian Grammar.* 12mo. bd. 6s.
64. *Graglia's Italian Dictionary.* 18mo. bd. 7s.

SUBJECT. 8.—Spanish.

65. *Dufley's Nature Displayed, adapted to the Spanish Language.* By Don Manuel de Torres. 2 vols. 8vo. 1l. 11s. 6d.
 66. *Neuman's Spanish Dictionary.* Pocket-size. 1st ed. 9s.
 67. **Spanish New Testament, from the Bible Society.* 12mo. 2s. 6d.

SECT. IV.—Penmanship.

68. *Genery's Geographical Copies, large hand, text, round, small hand, commercial (running-hand, bills and receipts, German text.* 6d. each; in all, 4s.
 69. *Perry's Grammar of Writing.* 18mo. 1s. 6d.
 70. *Perry's Copy Books* on horizontal and diagonal lines, adapted to the rules in the grammar. 4to. Nos. 1, 2, and 3. sewed. 1s. 6d.
 71. *Perry's Explanatory Copies, to correspond with the copy-books.* Nos. 1, 2, and 3. 2s.

SECT. V.—Memory.

72. *Rees's Treatise on Short-Hand.* 18mo. sewed. 2s. 6d.
 73. *Grey's Memoria Technica; or, method of artificial memory.* 19mo. bds. 4s. 6d.
 74. **Jackson's Tablet of Memory.* 5s.
 75. **Jackson's Method of Artificial Memory.* 12mo. 5s.
 76. **Feinagle's New Art of Memory.* To which is prefixed some account of the principal systems of artificial memory, from the earliest periods to the present time. Illustrated by engravings. 12mo. 12s.

SECT. VI.—Arithmetic and Book-Keeping.

77. *Barnes's Young Scholar's Guide to Arithmetic, including a course of book-keeping.* 12mo. 2s. 6d.
 78. **Kelly's Book-Keeping, by single and double entry.* 8vo. 5s.
 79. *Keith's Arithmetic and Key.* 8vo. 3s.
 80. *Joyce's Arithmetic.* 12mo. bd. 3s.
 81. *Joyce's Key to Arithmetic.* 18mo. bd. 3s.
 82. **Lacroix's Elementary Treatise on the Mathematical Principles of Arithmetic.* 8vo. 5s.
 83. **Clark's New System of Arithmetic; including specimens of a method in which most arithmetical operations may be performed without a knowledge of the rule of three; and followed by strictures on the nature of the elementary instruction contained in English treatises on that science.* 8vo. 20s.
 84. **Euler's Algebra.* 1 vol. 8vo. 16s.
 85. *Conversations on Algebra, &c.; designed for those who have not the advantage of a tutor.* 12mo. bds. 7s.

SECT. VII.—Mathematics.

86. *Bonnycastle's Mensuration and Practical Geometry.* 12mo. 4s. 6d.
 87. *Keith's Elements of Plane Geometry.* 8vo. bds. 10s. 6d.
 88. *Nesbit's Land Surveying. Plates.* 8vo. bds. 12s.
 89. *Nesbit's Mensuration.* 12mo. bd. 6s.
 90. *Nesbit's Key to Ditto.* 12mo. bd. 5s.
 91. *Gregory's Mathematics for Practical Men.* 8vo. 14s.
 92. **Wallace's Elements of Geometry; or, compendious demonstration of the first six books of Euclid.*
 93. *Euclid's Elements, by Simpson.* 18mo. bds.
 94. *Hutton's Mathematics.* 2 vols. 8vo. 15s.

SECT. VIII.—Drawing.

95. *Smith's Art of Drawing, in its various branches, exemplified in a course of twenty-eight progressive lessons, &c. &c.* 8vo. bds. 12s.
 96. **Dagley's Compendium; or, the theory and practice of drawing and painting.* 4to. 16s.
 97. **Hassell's Camera.* 8vo. 5s.

SECT. IX.—Geography and History.

98. *Roberts's Elements of Modern Geography and General History, with numerous maps and plates of costumes, &c.* 12mo. 6s. 6d.
 99. **Butler's Sketch of Modern and Antient Geography, for the use of schools.* 8vo. bds. 9s.
 100. *Ostell's New General Atlas.* 30 maps. 4to. 1l. 1s.
 101. *Butler's Atlas of Modern Geography, consisting of twenty-two coloured maps.* 1826. half-bd. 12s.
 102. †*Bourn's Gazetteer.* 1826. 8vo. 18s.
 103. *Stream of History, from the earliest ages to the present time.* 1l. 16s.
 104. *Priestley's Chart of History, on canvass and rollers.* 16s.
 105. *Henry's History of Great Britain.* 12 vols. 8vo. 4l. 4s.
 106. *Adam's Summary of Geography and History. Maps.* 8vo. bd. 15s.
 107. *†*Müller's Universal History.* 3 vols. 8vo. bds. 1l. 16s.
 108. *†*Müller on the Philosophy of Modern History.* 4 vols. 8vo. 2l. 8s.

SECT. X.—Moral and Political Science.

109. *Taylor's Elements of Thought, or first lessons on the knowledge of the mind.* 12mo. bds. 4s. 6d.
 110. *Stewart's Philosophy of the Mind.* 2 vols. 8vo. 1l. 8s.
 111. *†*Smith's Theory of Moral Sentiments.* 8vo. 12s.

112. *Smith's Inquiry into the Nature and Causes of the Wealth of Nations, with notes, and an additional volume by Buchanan. 4 vols. 8vo. 2l. 8s.
113. *Conversations on Political Economy*. 5th edit. 9s.

SECT. XI. — *Taste and Criticism.*

114. *Alison's Essays on the Nature and Principles of Taste*. 2 vols. 8vo. 1l. 1s.
115. *Knight's Analytical Enquiry into the Principles of Taste*. 8vo. 8s. 6d.
116. *†*Blair's Lectures on Rhetoric*. 2 vols. 8vo. bds. 18s.
117. **Jamieson's Grammar of Rhetoric and Polite Literature*; comprehending the Principles of language and style, the elements of taste and criticism, with rules for the study of composition, illustrated by appropriate examples. 12mo. 6s. 6d.
118. **Jamieson's Philosophy*, on didactic principles. 12mo. 6s. 6d.
119. **Kames's Elements of Criticism*. 2 vols. 8vo. 18s.
120. **Donaldson's Elements of Beauty*; also reflections on the harmony of sensibility and reason. Edin. 1780. 8vo. 2s. 6d.
121. **Black's Course of Lectures on the Dramatic Arts and Literature*, translated from the German of Schlegel. 2 vols. 8vo. 1l. 4s.
122. **Schimmelpenninck's Theory of the Classification of Beauty and Deformity*, and their correspondent physiognomic expression, exemplified in various works of art and natural objects. 4to. 12s.

We should recommend all the above works to be purchased, conceiving that few studies contribute more to happiness than the cultivation of what may be called the philosophy of seeing and hearing. "All ignorance of beauty, or depravity of taste, is defective animation; all improvement of these is increased sensibility: the powers of the mind, as well as of the body, being rendered more perfect by a proper use of them. To question whether an improved taste is an advantage, is in some measure to doubt, whether it is better to be, or not to be; to live or not to live; one devoid of taste is dead to all the finer feelings." — *Donaldson*.

SECT. XII. — *Natural Philosophy and Chemistry.*

123. *Conversations on Chemistry*. 2 vols. 12mo. 14s.
124. *Conversations on Natural Philosophy*. 12mo. 10s. 6d.
125. **Young's Lectures on Natural Philosophy*, and the mechanical arts. 2 vols. 4to. 5l. 5s. ;
126. *Fife's Practical Chemistry*. 8vo. 7s.
127. **The Glasgow Mechanic's Magazine*. 5 vols. 8vo. 3l.
128. *Davy's Agricultural Chemistry*. 8vo. 10s.
129. **The Dictionary of Chemistry*. 8vo. 1l. 1s.

SECT. XIII. — *Natural History.*

130. *Smith's Introduction to Physiological and Systematical Botany*. 15 plates. 8vo. bds. 14s.
131. *Smith's Grammar of Botany*, with an explanation of Jussieu's system. 21 plates. 8vo. bds. 9s.
132. *Keith's Physiological Botany*. 2 vols. 8vo. 1l. 6s.
133. *Kirby and Spence's Introduction to Entomology, or Elements of the Natural History of Insects*. 4 vols. 8vo. 3l. 12s.
134. *Samouelle's British Entomology*. Plates. crown 8vo. 1l.
135. ——— *Directions for collecting and preserving Insects*. 18mo. bds. 5s.
136. *Tasdermy; or, the art of preserving subjects of natural history*. 8vo. 5s.
137. *†*Goldsmith's Natural History of Birds and Beasts*. 12mo. 6s.
138. *†*Linnaeus's System of Nature*, by Turton. 7 vols. 8vo. 5l. 5s.
139. **Greenough's Principles of Geology*.

SECT. XIV. — *General Knowledge.*

140. **Encyclopædia Britannica*. 20 vols. 4to. 36l.
141. **Supplement to do.* 15l.
142. **Taylor's Advice to the Teens*. 12mo. bds. 5s.
143. *———— *Prudence and Principle*, a tale. 12mo. bds. 5s. 6d.
144. *———— *Reciprocal Duties of Children and Parents*. 12mo. bds. 5s.
145. *———— *Retrospection*, a tale. 12mo. bds. 5s.
146. *———— *Self Cultivation*. 12mo. bds. 5s. 6d.
147. **Edgeworth's Essays on Practical Education*, 2 vols. 8vo. 1l. 1s.
148. *———— *Professional Education*. 8vo. 12s.
149. **Hamilton's (Miss) Popular Essays on the Improvement of the Mind, &c.* 2 vols. 8vo. 1l. 4s.
150. *———— *Letters on Education*. 2 vols. 8vo. 14s.
151. *Hints for the Improvement of Early Education*. 12mo. 3s. 6d.
152. **Shepherd's, Joyce, and Carpenter's Systematic Education*; or, elementary instruction in the various departments of literature and science, with practical rules for studying. Plates. 3d edit. 2 vols. 8vo. 1l. 11s. 6d.
153. **British Poets*, with their lives, by Dr. Johnson and Alexander Chalmers. 21 vols. royal 8vo. 25l.
154. **British Plutarch*. Enlarged by Wrangham. 6 vols. 18mo. 3l. 12s.
155. **Shakspeare's Plays*, with glossarial notes. 10 vols. 18mo. 1l. 10s.

SECT. XV. — *Periodical Publications for general Information.*

156. *The Literary Gazette*, in weekly numbers, 8d. each ; or, per annum, 1l. 14s. 8d.
 157. *The Literary Chronicle*, in weekly numbers, 6d. each ; or, per annum, 1l. 6s.
 158. *The Mechanic's Magazine*, in weekly numbers, at 3d. ; or, per annum, 18s.

No garden library ought to be without this periodical, which contains a body of useful, practical information on almost every subject. There is, no doubt, much in it respecting steam-engines, and other machines of little interest to the gardener ; but there are also Treatises on Grammar, Arithmetic, Geometry, Perspective, and innumerable articles on domestic, and general economy, applicable to every-day life.

If a weekly newspaper is taken we should recommend the *Atlas*, the *Examiner*, or the *Scotsman*, as combining literature with politics and news.

SECT. XVI. — *Professional Books.*

159. *Tredgold's Principles of warming and ventilating Public Buildings and Dwelling-houses, Manufactories, Hospitals, Hot-houses, Conservatories, &c.* 1 vol. 8vo. 3d edit. 15s.
 160. *Partington's Builders' Complete Guide ; comprehending the theory and practice of the various branches of architecture, brick-making, bricklaying, masonry, carpentry, joinery, painting, plumbing, and glazing.* 8vo. 18s.
 161. *Observations on Modern Gardening.* 1 vol. 8vo.
 162. *Sweet's Botanical Cultivator.* 1 vol. 8vo. 2d edit. 12s.
 163. *Loudon's Encyclopædia of Plants, — of Gardening, — and of Agriculture.*
 164. *Loudon's Hortus Britannicus.*

We consider it unnecessary to complete this list, as any gardener may do it himself from the catalogues in our Encyclopædias and this Magazine.

SECT. XVII. — *Professional Periodicals.*

165. *The Gardener's Magazine*, six times a year, at 3s. 6d. 1l. 1s.
 166. *The Botanical Register, or Botanical Magazine ; or*
 167. *Sweet's Flower Garden and Shrubbery*, in monthly numbers.

Wherever garden libraries are established, a small sum annually will be required both for the library and professional periodicals, and now and then for a new book. Where there is a complete library, the *Botanical Register*, or some similar work, ought to be taken in, were it only for the sake of teaching gardeners flower-drawing, and the correct application of botanical terms to the parts of plants. In many cases the periodicals and other new works might lie a week or a fortnight on the library table of the family, and then be sent to the gardener.

From the above list, it appears, that an *essential* preliminary library will cost, deducting 9l. which might be saved on the books in foreign languages, about 30l., and about 1l. 19s. annually afterwards for essential periodicals, both general and professional. The *desirable* elementary books (those marked*), and *professional* books, (Sect. XVI.) might be purchased by degrees, if the expense of purchasing the whole at once was considered too much.

To enable gardeners to make use of the drawing-books, certain instruments and colours will require to be purchased by each individual for himself. He will find what these are in the books themselves, and especially in *Nesbit and Smith*, Nos. 88. and 95., and we shall add a few hints on the subject in next number.

As the best preservative for the books, we would recommend them to be numbered in series as purchased, and that this may be done effectually and permanently, they should be ordered half-bound, which is always cheaper than buying in boards, and then sending them to a book-binder, and the number, title, and name of the garden, printed on the back, thus :

Whenever a new volume is ordered the number to be printed on it should be sent to the bookseller ; and books consisting of several volumes should have the number in series and

No. 16.
 MURRAY'S
 ENGLISH
 GRAMMAR.

Rockville Garden
 Library.

1826.

the number of the volume also; thus, if *Mechanics' Magazine*, Vol. vi. were No. 24., Vol. vii. would be No. 25. thus:

In this way every volume or pamphlet in the library would have its number, which would be entered in the library catalogue, and in all transactions of lending, borrowing, &c. the number only would require to be recorded. On books sent in presents, may be pasted a written or printed label, to the same effect. To some these suggestions may be considered needlessly minute; but order and method are of advantage in every thing, even in the least things.

The next observation which we have to make on this subject is, that a number of the books in the foregoing list, or others equivalent to them, might be supplied from the thrown-aside school books of the family, which would materially lessen the expense of the elementary library. Grammars and dictionaries of every kind might be obtained in this way, and perhaps most other school-books. Indeed there are few gentlemen's libraries from which a number of books might not be spared both for the elementary and professional department of the garden.

We again call upon every reader for assistance in maturing our plan, and getting it carried into execution. Whoever disapproves of it, in the whole or in part, we entreat him to send us his reasons; whoever has a better plan to propose, or any improvement on our plan to suggest, let him send it; we shall give place to both sides, and leave our readers to decide against us, if we shall be found in the wrong. But if any master or master gardener sees our plan in the light we do, let him set about executing it at once — and with effect.

To aid personally in this matter as far as lies in our power, we shall, as a stimulus, insert in every future number for some time to come the names of such masters, whether gentlemen, or commercial, or serving gardeners, as have established garden libraries, in the order in which we receive them; and for this purpose, and as we consider such a list will be highly useful in the way of example, we request to be informed whenever any library is established, and whether on a small or large scale. We shall also, to the first library that we hear of being established, present an 18 in. terrestrial globe, and a friend to gardeners will add a copy of Nicholson's *British Encyclopædia*, 6 vols. 8vo. We shall farther receive contributions of books, and beg books from our friends to be sent to different libraries which may be formed; sending them either according to our judgment, or as may be directed by the donors. One advantage of giving a list of libraries formed, will be, that contributors may send donations to them at once, without passing them through our hands; another is, that all who have children to put out as apprentices to gardeners, will know the best places to send them to; and we would recommend to all parents and guardians, to be most particular in future in sending their sons and wards only to such gardens as have proper libraries, both preliminary and professional.

We conclude by observing, that the elementary books in the list may in various cases be substituted by others, and that therefore all friends to the plan, who have any school-books to spare, or any books for general reading of any sort, odd volumes, odd magazines, &c. &c. are requested to send them. Perhaps something may be gained by the purchase of second-hand books, and we are happy in being able to refer to a general agent, (see his advertisement in Part VI.) who, we can assert from personal knowledge, will execute this or any kind of orders he may be intrusted with, faithfully and correctly. Finally, let every gardener make a beginning, and not despair,

No. 25.

**MECHANICS'
MAGAZINE,**

VOL. VII.

*Rockville Garden
Library.*

1826.

through the kindness of his master, and the contributions which we expect to receive, of eventually succeeding. All donations received, and their disposal, and every garden library commenced, will be duly registered in this Magazine.

ART. VII. *Answers to Queries, and Queries.*

Hybrid Currants.—“G.S. begs to inform *Ribes*, (*Gard. Mag.* vol. i. p. 229.) that many years ago he impregnated *Rubus Idæus*, (var. Red Antwerp) with *R. cæsius*, and *vice versa*. From the seeds of the former were obtained ten or a dozen plants, which were kept three years, and blossomed abundantly the second and third years, but produced no fruit, for which reason they were soon after eradicated, as the object was to get a new fruit. The plants were quite *horrid* with prickles, and resembled in habit, and in their whole appearance, the *male* parent more than the *female*, excepting that they grew more erect, and not so trailing. From the *Rubus c.* no seeds were obtained.

“G. S. is in possession of a var. of *Ribes nigrum*, the fruit of which, when ripe, is of a greenish yellow colour, with a sooty tinge, and by those who have tasted it is said to be of a more agreeable flavour than the black. In other respects there appears to be no difference. The origin of this variety he is not at present acquainted with, but possibly if considered worth while it may be traced out. —*Dyrham, near Bath, Sept. 14. 1826.*”

Cuttings of this currant have been received from G. S. by *Ribes*, and plants may be obtained in two years from the Clapton Nursery. Mr. Lachlan has also been good enough to send cuttings of his Hybrid, (vol. i. p. 464.) to *Ribes*, and they will be propagated in the above-mentioned nursery. — *Cond.*

New Trap for Sparrows.—“In answer to your worthy correspondent, D. B., who wishes to be informed whether any reader of the Gardener's Magazine has ever observed the same phenomenon which he speaks of, I beg leave to state that I have observed the same thing more than once, not only with sparrows, but turkies. Turkies will form a circle round the toad, stretch forth their long necks, view it with peculiar attention, now and then gobble out a note of surprise, and suffer any one to come among them without taking any notice. Pigeons, also, if the toad appears among them when on the ground, will gather round it, view it with silent wonder for a few moments, and then begin to take their flight to the dove-house, or other buildings; and I have reason to believe that some kinds of hawks, upon seeing the toad, will hover or sail round over it for a considerable time. Whether these birds are attracted by the brilliancy of the toad's eyes, as Mr. D. B. suggests, I cannot say positively; but this I know, that the toad seldom appears abroad in public during the day: he then keeps concealed among plants or in his hole, and comes forth in the evening, when the little busy chirpers, and most other birds, are retired to rest; so that comparatively few birds have an opportunity of seeing him: and these two circumstances, the brilliancy of the eyes, and the unusual sight of the animal, most probably, I think, concur in producing the phenomenon alluded to. I have no doubt that if the toad were placed in a conspicuous situation, as your correspondent hints, near where the sparrows resort, their attention would be so absorbed by it, that they might easily be approached so as to be shot in considerable numbers. But I confess I am no advocate for taking away the life of any animal, unless necessity strongly demands it. A few sparrows might be shot, it is true; there are always, I believe, plenty of them:

but whoever tries the above experiment, I could wish them to take care that the poor toad is not shot along with the sparrows, for I do not know a more useful animal in a garden than it is. Incapable, in general, of doing any harm, it does a great deal of good: its food consists entirely of insects, many of them noxious to vegetation, and for taking which the toad is furnished with a tongue of a peculiar conformation, which it darts out on the insect, and suddenly draws it in with it quicker than can be calculated. With regard to the sparrows, much as they are in general execrated, they are, notwithstanding, productive of much good. During the time of their breeding season vegetation teems with numberless caterpillars of different sorts, and other noxious insects, which they labour to destroy, for it is on them they bring up their young; and I always take care not to have the nests round my cottage destroyed. Much might likewise be said in favour of many other birds, that are by farmers and others but too generally deemed injurious; but I fear, Sir, I have already trespassed too long on your valuable time. [Not at all, the account is most interesting.]—I remain, Sir, &c.

"Harlow, Oct. 28th, 1826.

D. FRENCH."

Black Insect on Cherry Trees.—"Sir: Your correspondent, W. B. B. Sanctuary, Devonshire, in vol. i. p. 359. of your Magazine, wishes for some remedy for the black fly on his cherry trees. Query, have the roots of his May Duke against the south wall been injured by digging or otherwise? If not, if he can procure a good barrow-full of *fattening hog's dung*, (this is the season to get and apply it,) let him lay that on the surface of the ground at the roots of the tree. I have seen surprising effects of that manure on cherry trees. S. L.'s answer at page 464. is, I think, excellent, and with respect to his treatment of peach and nectarine trees, though I have not used his wash, I use a small brush made of heath, and after unnailing the tree, the wall is well brushed with this instrument, and not a single shred used again, nor suffered to lie under the tree. Should you consider any of these remarks worthy your notice, they are much at your service.

"I am, Sir, &c.

"Hitcham Gardens, Nov. 23d, 1826.

WM. HURST."

Black Insect on Cherry Trees.—"Sir: Seeing in vol i. p. 359. of your Gard. Mag. an answer to W. B. B. concerning what is generally called the black blight. I beg leave to say that the remedy there-suggested will neither effectually destroy nor prevent the increase of these enemies of the peach, plum, and cherry tree. Where the trees are much affected, or, if I may use the term, habitually so, it might be worthy of the attention of some of your scientific correspondents to spare some of their leisure hours on that particular, for the benefit of their more humble fellow-labourers in the vineyard.

I am, Sir, &c.

G."

"Dec. 8th, 1826."

Refuse Tobacco, Tobacco Paper, or Tobacco Water, for destroying Insects. G. R. is informed that these may be had at the shop of John Lloyd and Son, 77. Snow-Hill, and of various other tobacco and snuff manufacturers, at the price of 4s. per lb., 1s. 6d. per lb., and 1s. 6d. per gallon.

System of cropping Gardens.—"What I should like much to see introduced into your useful Magazine, is some hints respecting a general system of cropping a kitchen-garden. If you look round a little you will see a great deal of patch-work, and little regulation in general. I grant that the same end may be answered for the present, but ultimately a regular system must prevail in all things. If this subject be not taken up by some more competent hand, I shall some day try something of the kind.

"I am, Sir, &c.

G."

We earnestly invite our correspondent to do so soon. Properly treated, few subjects are calculated to be so useful, both to the gentleman's gardener and the cottager.—*Cond.*

S. would be glad if some reader of the Gardener's Magazine would explain to him the change which takes place in the tulip bulb. He says, "I have planted to-day a number of bulbs, and the whole of them appear as if the flower stem would rise from the centre of the bulb (fig. 32. a.), but when I come to take them up in July next, I shall find it rising from the bottom (b.)—*Hermitage, near Lancaster, Nov. 9th, 1826.*"

Winter Cherry.—"In the spring of the present year, I bought several packets of tender annual and other seeds, amongst which was to have been included the *Amomum Plinii*, mentioned in Mawe and Abercrombie, page 199., as the winter cherry, "much esteemed for its beautiful red fruit, which it bears in winter." The seed sold me could not have been right, as the plants bloomed a light purple flower, like the convolvulus in shape, and then went to seed at the end of August. Will you inform me whether it is known by the above name in the shops?—G. R."



The common winter cherry is the *Physalis Alkekengi*, a hardy perennial; the *P. peruviana* or *edulis*, is sometimes grown for its fruit on the back walls of vineries, and is also called winter cherry. The *Amomum Plinii* we are inclined to suppose is a species of capsicum. The blue-flowering plant may have been *Nicandra physaloides*.—*Cond.*

Saccharometer.—"Mr. Bonington Mowbray, in his 'Every Man his own Brewer,' says, p. 41. of his work, 'those family brewers, who choose to be hypercorrect and curious, may provide a saccharometer, the purchase of which in a tin case is six shillings.' I have asked the price of a saccharometer, and have been told that a good one will come to five guineas. Where are they to be bought for the reasonable sum of six shillings?"

"G. R."

No where. Six shillings must be a misprint for six guineas.—*Cond.*

Destruction of Insects.—"I ought to apologize, Mr. Editor, for the number of my queries; but will only add an extract from the Imperial Magazine, for the year 1819, called 'An experiment that is worth trying,' and as it has two recommendations, that of being very cheap, and easily obtained, I think it will not be unacceptable to some of your readers.

" 'An American farmer lately informed the public, that if the water in which potatoes have been boiled be sprinkled over plants, shrubs, and trees, it will most effectually destroy those insects with which they are infested. At what particular season of the year this sprinkling must take place, we are not informed. We are only told, in general terms, that this water will destroy the insects in every stage of their existence. As the trial may be made with only little trouble, and with no expence, we cannot conceive that time would be misapplied, if some gardener were to carry on a course of experiments throughout the year, in various ways, in order to ascertain the result.' Your reader and subscriber,

G. R."

Yellow Rose.—"Could any art be devised to render the yellow rose less double,—semi-double for instance; it would flower better and be much more beautiful. This, however, is an art, I fear, far beyond our reach, and we must not expect success in this attempt. But as there seems to be a variety in the South of France, I could wish, through your widely circulating Magazine, to call the attention of those enterprising English Gardeners, settled at the Trianon Nursery, near Rouen, Messrs. Calvert and Co. to it. It may be worth their notice. It is thus spoken of by Mr. Hughes in his Itinerary. He says, 'At an inn, on the road between Avignon and Nismes, near the Pont du Gard, the landlord gave me some double yellow roses

of a sort which I had never seen before.' This description of the situation may be sufficient to excite enquiry, though not to discover the very place, perhaps: but we can hardly suppose that the rose was confined to one garden, most probably it is generally cultivated through that district.

"In acclimating plants from China, we have succeeded so well, that I will not despair of seeing the *Nymphaea nelumbo*, the red water lily of China and the Ganges, growing in our ponds. The first situation to be tried is so near the spring head that the water never freezes. The experiment should be made in different waters, some running over gravel, others over chalk, loam, or bog-earth. Some one of these soils might suit the plant, when any of the others would not: but, if it failed in all, then we might suppose that it died from the cold. But as we know that water is much more equal in temperature than earth or air, I cannot but think that we might succeed. Suppose the experiment were first tried in Devonshire, or in Ireland, where the winter is much more mild than with us. If the plants grew, we should be able rapidly to increase them, and disperse them over the kingdom. Like our own white water lily the leaves would fall off in the autumn, and the root would be at rest during the winter. Had I the opportunity I should certainly make the experiment. When the superb oriental garden at Brighton is brought to perfection, I hope they will introduce the beautiful fire-fly of Portugal and Naples; half an acre inclosed with glass, and 60 feet high, would give ample space for these splendid and harmless insects to breed and enjoy life. Sir, your well-wisher,

RUSTICUS IN URBE.

"To feed Pheasants, Blackbirds, and Thrushes in the winter, nothing is better than boiled or roasted potatoes. — R. IN U."

Trottel Plant.—"In the Farmer's Calendar a plant is mentioned of the name of Trottel, said to have been brought from Labradore, and to have been cultivated near Greenock and at Bristol; it is said to be of the potatoe kind, to be planted in August and September, to grow rapidly all the winter months, to be hurt by no frost, and to come to maturity in the spring months. What is it? Is there any such thing? — R. IN U."

No. The story of the Trottel plant, or Trottel root, was a hoax played off in 1823, on the editor of the Monthly Magazine.—*Cond.*

"The *Aster Argophyllus*; or, Musk Plant of New Holland, past the winter of 1816, 1817, without any kind of shelter in Mr. A. Thomson's nursery at Mile-End: what is become of it? Is it found to be hardy?"

It was killed to the ground in 1819, 1820. The plant, however, will stand the winter in cold pits. — *Cond.*

A Lamp for keeping the frost out of a small greenhouse is inquired for by Mr. Isaac Strebling of Mistley, Essex. We have heard of such a lamp, but cannot ascertain where it may be purchased. Any sort of oil or grease may be burned in the saucer of a flower-pot, and a large pot, supported on two bricks, whelmed over it. This we have tried in a pit with success. In *Mech. Mag.* vol. vi. p.315., a lamp for heating smoothing-irons is described, which might do. — *Cond.*

Turning in Green Crops in Bloom.—To X. X. This practice, which was in great repute among the Romans, is supposed to be rather neglected by the moderns. The former people used the lupine. The plant in most general use at present is the buckwheat, of which two, and sometimes three crops, may be ploughed down in one season. Sown in March, it will flower in May; ploughed down and the same ground re-sown, the plants will flower in two months, say on the 1st of August; again ploughed down, and re-sown, the crop will be fit to be turned in on the 1st of October, in good time for sowing rye or wheat. Columella says, "If lupines are sown in a poor soil, and covered about the 16th of September, and when they have grown to a proper height turned into the land with the plough or spade, they will discover the qualities of the very best manure. On

sandy soils they ought to be turned in when in the second, in stiff soils when in the third flower." A German writer (*Gard. Mag.* vol. i. p. 200.) recommends borage, as containing alkali; and we think the recommendation deserves a trial. As lupines are oleaginous, their oil and the alkali of the borage would probably unite and form a saponaceous nutriment.

Raising Potatoes from Seed. — "Sir: I have as yet seen no observations in your work on the raising of potatoes from seed. I have practised it for a few years with very encouraging results, having raised some better roots from seed than I ever had before. Within these few days, I dressed some raised from seed sown this spring, which were as big as large walnuts, and of the character of the best early potatoes. This, however, never happened before: in general, they do not exceed the size of hazel-nuts the first year; and most of those this year were no bigger. The third spring they are fit to plant for a crop. On a plot as big as a large table you may sow seed to raise roots enough for an acre.

Apple and Quince Hybrids. — I wish to know whether any experiment has been tried of fecundating the apple, pear, or quince blossom from the *Pyrus* (now *Cydonia*) *japonica*. I tried the experiment this spring, but it was frustrated by the ungenial weather. The fruit of the *P. jap.* has, when ripe, as I have often seen it, a most delicious fragrance, between quince and pine-apple, and will perfume a room for weeks. I saw one, which was sent last year to the Horticultural Society, which weighed above $\frac{1}{4}$ lb., and measured $8\frac{1}{2}$ inches in circumference. It is too austere to be eaten raw, but may be used when cooked, though not equal to a quince.

Ayrshire Rose. — Can you inform me whether the Ayrshire rose is a variety of the *sempervirens*, the *arvensis*, or what? I have a plant against my house which was put in last spring two years, about six inches high. It now (including a sucker taken off and planted beside it the first autumn,) covers about twenty yards in width by six in height, though it has been much pruned. I have about twenty buds standing on various parts of various roses, which, when they come to flower, will make a magnificent appearance. I have repeatedly measured the growth of several shoots, which I found to grow two inches a day all through the summer? Is there any parallel to this in the vegetation of a woody plant in this climate? [We believe not. Mr. Lindley's name for this rose is *R. sempervirens*, var. *subdecidua*. For all practical purposes it may be considered as the same as *R. arvensis*. — *Cond.*]

Portuguese Cabbage, or Cove Tronchudo. (*Tronchudo* sp. having a great stalk.) — Are you acquainted with a Portuguese kind of cabbage called there *Tranxuda*? I procured the seeds from Portugal, and have raised them in abundance for several years. It is allowed to be the most delicious vegetable of the tribe by good judges. It is in season in May and October. It does not cabbage, and is very apt to run to seed; but if the plants are headed in time they afford excellent sprouts, which, with the stalks of the leaves, are the best part. I shall be happy to supply seeds, and particulars of the culture, if required. I am, Sir, &c.

"Nov. 22. 1826.

A SUFFOLK AMATEUR."

We have tasted this cabbage, from the garden of the Horticultural Society, and fully agree in opinion with our correspondent as to its merits. As seeds are not yet to be had in the seed shops, we shall be very glad of a little, and particularly so for remarks on their culture. — *Cond.*

PART IV.

ADVERTISEMENTS CONNECTED WITH GARDENING AND
RURAL AFFAIRS.

E. WEIR respectfully informs the Public, that every description of **AGRICULTURAL IMPLEMENTS, MACHINERY**, and, in particular, all those mentioned in Mr. Loudon's *Encyclopedia of Agriculture*, and in the *Gardener's Magazine*, are now for inspection at 369, Oxford Street, where may be had M'Intosh's new Verge Cutter, and Improved Orange Tub, described in No. 2 of the *Magazine*. Also Findlayson's Patent Harrow, and the Spanish Hoe, which will be described in No. 6 of the *Gardener's Magazine*.

Information required respecting the above, if by Letter (post paid), will be immediately attended to.

Beurré Gris
Bon Chrétien d'Als
Passe St. Germain
Présent de Malines
Colmar epineux

Ma
Ur
Ea
Fr
Bo
Gi
En
Ha
Ro

Beurré Rance
— Royale, or Dillon
Doyenné Gris
Belle Lucrative
Bergamotte Fayon

Early MANICURE
Saint Martial
Beurré D'Al

WHICH WOULD BE FOR
but few Plants for
Sale.

The following are old sorts of established reputation:—

Cressane
Green Chisel
Autumn Bergamotte
Erlington
Swan Egg
Colmar
Gansell's Bergamotte
Brown Beurré
Golden Beurré
Windsor
Jargonelle
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St. Germain
Lammas

Catherine
Egg Primitive
Orange Bergamotte
Winter Bon Chrétien
Uvedale's St. Germain
White Beurré
Summer Bergamotte
William's Bon Chrétien
Moorfowl Egg
New Hazel Pear
Crawford's Egg
Hemlock Bergamotte
Bishop's Thumb.

C. & J. YOUNG.

Epsom Nursery, Dec. 3. 1826.

FINE NEW PEAR. (*Duchesse d'Angoulême*.)**THIS** very excellent new variety

of that delicious and wholesome Fruit, is superior to all others, both in size and flavour, which ripen in the season from the middle of October to the middle of December. It is a fine bearer as a standard, ripening well in fine seasons, but is best trained against a wall. The fruit is large, and will weigh upwards of twenty-two ounces; it is much esteemed in France, and by the London Horticultural Society, to whom it has been exhibited. Plants are to be obtained of Mr. William Rogers, Nurseryman and Florist to the King, Southampton, together with the three most esteemed keeping Winter Pears: viz. Gloux Moreau, Passe Colmar, and Beurré d'Alver, at 5s. each.

Orders are also received by Mr. Henry Clarke, Seedman, No. 167 Regent Street.
Southampton, Oct. 27. 1826.

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MESSRS. C. & J. YOUNG,

having devoted themselves for some years past to the selection and culture of the new Pears introduced by Mr. Braddick, or otherwise brought into notice, are now prepared to supply the Public with Plants of the following select kinds:—

Seckle
Beurré Spence
Jean de Wit
Sir Joseph Banks
Red Doyenné
Poire Pistolet
Marie Louise

Poire de Guerre
Boyle Farm Wilding
Napoleon
Passe Colmar
Jesop's Beurré
Jackman's Making
Form de Marie Louise

GAUEN'S EARLY CUCUMBER.

THIS variety of Cucumber re-

quires an artificial atmosphere of 72 degrees of Fahrenheit, until the plants begin to fruit, and from 74 to 78 degrees to fruit them to perfection. A bottom heat from 90 to 96 degrees is essentially necessary to obtain fruit early; they are not liable to canker, and grow to twelve and fourteen inches in length. The sort was obtained from Gauen's and Steward's Varieties united. Gauen and Steward have gained upwards of One Hundred Pounds value in Prizes. The Proprietor will match them against any other variety that can be produced.

Sold by W. Rogers, Nurseryman and Seedman to the King, Southampton; and also by Mr. Henry Clarke, Seedman, No. 167 Regent Street.

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OF DOMAIN LANDS.**

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To GARDENERS, BOTANISTS, and others engaged in Agricultural Pursuits.

T. WINTER, Working Optician, No. 9, New Bond Street, respectfully informs Cultivators and Botanists, that from the encouragement he has met with in the Sale of his Self-registering Thermometers, and his newly-invented Vertical Wheel Microscopes, he is now enabled to offer them, and other Articles, on the following low Terms:—

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H. GROOM respectfully informs his friends and the Horticultural world, that he continues to propagate and import every description of Florist's Flowers, including Hyacinths, Tulips, Ranunculus, Anemones, Carnations, Auriculas, &c. &c., and to sell them at the prices affixed to the names in his Catalogue. H. G. is also in correspondence with most of the provincial Florists in Lancashire, and other Counties, and will undertake to execute orders for any Flower in cultivation, either in Great Britain or on the Continent.
Walworth, December 1826.

To FLORISTS and others.
RANUNCULUSES and ANEMONES.

TO be Disposed of, by private Contract, in one or more Lots, as may be most agreeable to Purchasers, all the superb and highly valuable assortment of Ranunculuses and Anemones, being the genuine Collection of the late Thomas Andrew, Esq. of Coggeshall, Essex, deceased, consisting of the most highly-prized and valuable Sorts, and which were collected by him with great taste, and at a very considerable expence. Further particulars may be obtained on the premises at Coggeshall aforesaid; and to treat for the same, application to be made to Mr. Charles Baron, Saffron Walden, who has the entire arrangement of the Collection, and is fully authorized to dispose of the same. All letters to be free of postage.

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LADIES and GENTLEMEN, in arranging and planting their Flower Borders in the Spring, may be supplied with any of the above Flowers, in the greatest variety, by applying to **THOMAS HOOO, Florist**, Near the Church, Paddington, London.

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The great advantage of using Salt and Saltpetre as manures, is too fully established to require recommendation. Of the extent and utility of improvement practicable, it need only be observed, that some of the best Cultivators now produce threefold the quantity of which their fathers did in the same land, by the routine of their time.

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THE
GARDENER'S MAGAZINE.

MARCH, 1827.

PART I.

ORIGINAL CORRESPONDENCE.

ART. I. *On the Culture of North American Plants, including Ferns; founded on Observations made during a Journey through Canada, and some of the Northern States of the Union, in the Years 1817, 1818, and 1819.* By Mr. JOHN GOLDIE, of the Monkwood Grove Nursery, Ayrshire.

Sir,

At the request of my friend Mr. Mackay, of the Clapton nursery, I send you a list of a few of the plants that I have observed in my journey through Canada and some of the United States of America, with an account of the soil and situation in which they are generally to be found in their native country. Although North American plants are for the most part grown in bog earth in this country, yet I consider this soil as by no means indispensably necessary for their successful cultivation, since I have found that they will do equally well if planted in a mixture of vegetable mould and sand. The soil in North America is not exactly similar to our bog earth, being chiefly composed of rotten wood and leaves, which forms a fine rich mould, in which the most of plants will grow extremely well. In the forests, where the trees are of a large size, there are very few vegetables of any description to be found below them; so that the surface-soil is almost wholly produced by the decayed trees and branches which are blown down by the wind, or which fall by age, and the annual fall of leaves. One thing that I consider requisite for the successful cultivation of these plants is, to afford them a proper degree of shade, since, in their native woods, a great many of them are completely excluded from the rays of the sun. Any person

receiving plants from North America will seldom err if he plant them in a mixture of fine vegetable mould and sand, and keep them rather dry than too moist; except the Orchideæ, the most of which require plenty of moisture. In the following list, when I mention any plant as growing in rich shady woods, the soil is always such as I have above described, and the subsoil is very frequently sand. Many, even of the Canadian plants, will do much better if they have a little protection afforded them during winter. Although the cold is not nearly so intense in Britain as it is in Canada, yet there, from the month of November until the month of May, they are completely sheltered from the severity of the weather by a deep covering of snow, and experience none of those alternate frosts and thaws to which they are subjected in this country. As I have stated the kind of soil in which each plant mentioned in the following list grows, I need add no more in this place, but express a sincere desire that some of these remarks may be useful to those who are anxious to cultivate the beautiful and interesting vegetable productions of North America. The species follow each other in the order of the Linnean system.

With best wishes, I am, Sir, &c.

JOHN GOLDIE.

Monkwood Grove, Dec. 5. 1826.

Justicia pedunculata — aquatic; — Island of Montreal.

Monarda kalmiana, in rich moist soil, northern part of New York and Pennsylvania; scarcely distinct from *M. didyma*.

———— *punctata*, in dry sandy fields of New Jersey.

———— *hirsuta*, in moist shady woods, Pennsylvania, near Lake Erie.

Iris cristata, in dry woods of Ohio. (*Fig. 33. a.*)

— *tridentata*, Island of Anticosti. I had this flower very finely this season.

— *prismatica*, in sphagnum swamps of *Sphagnum*, at Quaker's Bridge, New Jersey.

Dilatris tinctoria, in swamps near the preceding.

Heteranthera graminea, in stagnant water in the town of Montreal.

Lechea minor, in dry sandy woods between Queenstown and the Falls of Niagara.

Swertia deflexa, among the rocky woods at the Bay of Gaspé.

Frasera Walteri, in strong clay soil in oak woods, Ohio, near Lake Erie.

Mitchella repens, in dry vegetable mould and sand, Halifax and Montreal.

Houstonia cœrulea, in moist soil, Halifax.

———— *purpurea*, in dry sandy woods, Bay of Quinté, N. C.

Ilex Canadensis, in dry vegetable mould and sand, Montreal.

Batschia Gmelini, in a dry sandy wood near York, N. C.

Cynoglossum amplexicaule, in dry rich soil on limestone rocks, Montreal.

Primula pusilla, in vegetable mould and gravel, edge of the St. Lawrence, opposite Québec. This plant frequently sends out runners below ground, which produce a number of young plants, which is a singular circumstance in this genus.

Xylosteum ciliatum, in rich moist soil in shady woods, Montreal.

Xylosteum oblongifolium, in a swamp, Montreal.

Triosteum perfoliatum, in dry soil on limestone rocks, Montreal.

Euonymus obovatus, in recent vegetable mould, in shady woods, south side of Lake Erie.

Viola pedata, in dry sands, New Jersey.

— *lanceolata*, in moist soil, Halifax.

— *primulifolia*, in dry sandy soil, Halifax and Lake Simcoe.

Claytonia Caroliniana, in rich vegetable mould, Montreal. Mr. Pursh informed me that he once found a double-flowered variety of this plant.

Asclepias verticillata, in dry soils, near Niagara.

— *tuberosa*, in dry sandy fields near the Falls of Niagara. This is a beautiful species.

Gentiana crinita, in moist vegetable soil, Table Rock, Niagara.

— *saponaria*, about the edges of moist woods, Montreal.

— *ochroleuca*, in dry soils, Ohio, near Lake Erie.

— *amarelloides*, in dry sandy soil, Sorelle and Lake Simcoe. Flowers blue or yellow.

— *angustifolia*, in moist soils and swamps, New Jersey. A very fine species.

Panax quinquefolium, in deep rich moist vegetable soil in shady woods, Montreal and Ohio.

— *trifolium*, in shady woods, Montreal.

Smyrniurn integerimurn, in dry hazelly loam, Montreal and Indiana.

Parnassia Caroliniana, in moist vegetable soil, edge of rivers and swamps, Montreal.

Aralia hispida, in dry sandy woods, Kingston, N. C.

Drosera filiformis, in swamps, New Jersey. A singular species.

Caulophyllum thalictroides, in rich shady woods, Montreal.

Cobostylis Americana, in swamps, New Jersey.

Lilium Philadelphicum, in dry sandy soils, N. C.

Uvularia grandiflora, { in rich shady woods, Montreal.

— *sessilifolia*, {

Streptopus distortus, { in rich shady woods, Montreal.

— *roseus*, {

— *lanuginosus*, in rich shady woods, Pennsylvania.

Smilacina borealis, in rich shady woods, Montreal.

— *trifolia*, in sphagnous swampy soils, Montreal.

Zigadenus glaberrimus, in light dry, or moist soils, Anticosti, Lake Simcoe, and Ohio. (Fig. 33. 6.)

Helonias asphodeloides, in dry sandy pine woods, New Jersey.

Medeola virginica, in rich vegetable mould on sand, in shady woods, Montreal. (Fig. 33. c.)

Trillium pictum, in dry vegetable mould on sand, Montreal.

——— *erectum*,
——— *grandiflorum*, } in rich vegetable mould, Montreal.

Epigaea repens, in vegetable mould and sand, Halifax and Lake Simcoe. Difficult to keep. Last spring I saw it flowering beautifully with Mr. McNab, Botanic Garden, Edinburgh. (Fig. 33. d.)

Pyrola asarifolia, in shady sphagnum swamps, Montreal.

——— *uniflora*, in shady sphagnum swamps, Montreal, and in dry pine woods, New York.

——— *maculata*, in dry vegetable soil, in shady woods, Pennsylv. (Fig. 33. e.)

——— *umbellata*, in dry vegetable soil, in shady woods, Quebec and Montreal.

Silene regia, in dry stiff loam in oak woods, Ohio. A beautiful plant. (Fig. 33. f.)

Lythrum verticillatum, aquatic, Montreal and New Jersey.

Geum triflorum, in dry open situations, Belleville, N. C.

Hudsonia ericoides, in dry sandy pine woods, New Jersey.

Sarracenia purpurea, in sphagnum swamps, Halifax and Montreal. The leaves should be kept full of water. (Fig. 33. g.)

Anemone multifida, in vegetable mould in the clefts of rocks, Quebec.

Ranunculus rhomboideus, in dry sandy soils, Lake Simcoe.

Pothos fœtida, in marshes, N. C. (Fig. 33. h.)

Phryma leptostachya, in rich shady woods, Quebec and Montreal.

Verbena stricta, in dry sandy fields, Vincennes, Indiana. A beautiful species. (Fig. 34. a.)

Ruellia strepens, in stiff loamy soil, Ohio.

Gerardia flava,
——— *quercifolia*,
——— *pedicularia*, } in dry rocky woods, New York, Pennsylvania, and Indiana. Beautiful plants, but difficult to cultivate. Half vegetable mould, and sand, I think, would grow them well.

Seymeria macrophylla, in dry soil on the banks of the big Miami, Ohio.

Bartsia coccinea, in fields and dry sandy woods, N. C. Beautiful, but difficult of cultivation.

Dentaria diphylla, in rich shady woods, Montreal.

Lobelia Kalmii, in moist soils about the edge of rivers, Montreal and N. C.

——— *puberula*, in moist sandy loam, Indiana.

——— *siphilitica*, in marshy soils, N. Canada and Ohio. I have seen a white variety of this.

——— *cardinalis*, in marshy soils, Montreal, and Ohio.

Petalostemum candidum,
——— *violaceum*, } in dry sandy loam, on the banks of the Wabash, at Vincennes. The latter is a beautiful plant.

Hedysarum acuminatum, } in dry, sandy, or gravelly woods, Montreal and several species, } New-York.



Tephrosia virginica, in dry sandy fields and woods, Pennsylvania and Indiana.

Prenanthes alba, { in rich sandy loam, Montreal. The roots die after
 ——— *racemosa*, { flowering, but produce offsets, which is their
 mode of propagation.

Liatris macrostachya, { in rich dry sandy fields, Ohio and Indiana. All the
 ——— *graminifolia*, { species of this genus are handsome.

Eupatorium coelestinum, in rich alluvial soil, at Hindostan, Indiana. A fine species.

Aster concolor, in dry sandy pine woods, New Jersey. The finest of the genus that I have seen.

Habenaria ciliaris, in dry sandy loam, Montreal and Pennsylvania. (Fig. 34. b.)

———— *blephariglottis*, in a sphagnous swamp, Quebec. I grow it in sphagnum and bog earth.

———— *tridentata*, in a sphagnous swamp, L. Simcoe.

———— *bracteata*, in rich shady woods, Montreal.

———— *orbicularis*, in dry sandy loam, Montreal.

———— *macrophylla*, in rich moist soil, shady woods, Montreal. Rare.

———— *fimbriata*, in moist meadows and woods, Montreal. Grows well in bog earth and sand kept moist.

Orchis spectabilis, in rich shady woods, Montreal.

Goodyera pubescens, in dry shady woods, among half-rotten leaves, Montreal.

Arethusa bulbosa, in dry woods, Montreal. In sphagnous swamps, Lake Simcoe.

———— *ophioglossoides*, in similar soils with the preceding.

Malaxis ophioglossoides, in moist soils, Halifax.

———— *unifolia*, { in similar soils, Montreal.
 ——— *Correana*, {

Calopogon pulchellum, generally in sphagnous swamps, Montreal and Lake Simcoe, where some acres are covered with it, and a number of rare orchidæ. I once found this plant and *Cypripedium spectabile* growing in a dry sandy wood near York, North Carolina, and both flowering equally as well as when grown in a swamp, which seems to be their natural habitation. I believe that many plants will grow in very different kinds of soil.

Calypso borealis, amongst the half-rotten leaves of hemlock, spruce, larch, arborvitæ, &c. and always in dry situations. This beautiful little plant I have only found in the Island of Montreal; a place rich in plants, particularly orchidæ.

Cypripedium pubescens, (fig. 34. c.) } in swampy situations, Montreal.
 ——— *spectabile*, }

———— *arietinum*, in a swamp, Montreal; which, I believe, is the only place where it has ever been found. It was discovered about 1808, by Mr. Robert Cleghorn, Montreal, and by him sent to London. These three species will grow well in vegetable mould and sand, and should be kept moist and shady. (Fig. 34. d.)

———— *humile*, Quebec and Montreal. This species I have never observed growing in the same soil as the others, being always to be found in very dry situations, and frequently in company with *Trillium pictum*, in rich vegetable soil, with a sandy subsoil. It does not require so much water as the others, and seems more difficult to cultivate.

The finest show of the American orchidæ that I have seen in this country was in the Botanic Garden, Glasgow; where Mr. Murray had last season a collection of them, along with many of the rarer British ones, planted in a bed prepared with proper soil, and covered with a large frame. By this means they were protected from the severity and the sudden changes of the winter; and during summer they enjoyed as high a temperature as if they had been flourishing in their native forests in America.

Along with the greater part of the plants mentioned in this list, I cultivate the following American Ferns, which are particular favourites of mine. I need not particularise the soil to each, as they all do exceedingly well in vegetable mould, kept moist and shady.

Botrychium virginicum, (fig. 35. a.)

————— *obliquum*,

Aspidium acrostichoides,

————— *noveboracense*,

————— *cristatum*,

————— *marginale*,

————— *Goldianum*,

————— *bulbiferum*,

Onoclea sensibilis,

Struthiopteris Pennsylvanica,

Osmunda cinnamomea,

————— *interrupta*, (fig. 35. b.)

————— *spectabilis*,

Polypodium hexagenopterum,

Woodsia ilvensis,

Asplenium rhizophyllum,

————— *angustifolium*,

————— *ebenum*,

————— *melanocaulon*,

————— *thelypteroides*,

Pteris atropurpurea, (fig. 35. c.)

————— *gracilis*,

Adiantum pedatum,

Dicksonia pilosiuscula.

Our correspondent, Mr. Bowie, having greatly simplified the culture of heaths (Vol. I. p. 363.), Mr. Goldie's communication may be considered as having the same object in view with respect to American plants. Their peculiar character, and the interest they excite in Europe, from their novelty as well as beauty, render them most desirable objects of culture; and as they are all hardy, they are within the reach of every one. Where no other vegetable matter can be got to mix with earth, rotten dung or rotten tan will do very well, if accompanied with plenty of sand, and the situation admit of the requisite shade and moisture. We shall be happy to hear that Mr. Bowie and Mr. Goldie have been the means of extending the culture of heaths and American plants. We have figured

a few of the most popular or curious sorts of both; but the best way for a beginner to get a collection is to send 5*l.*, 10*l.*, or 15*l.*, &c. to Mr. Goldie, or whoever may be his nurseryman, and ask him to lay it out as far as it will go on the kind of plants wanted. In our next Number will be found an article by A. X. on orchideous plants, which, with preceding papers on the same subject by Mr. Penny, Mr. Thompson, and others, will have simplified the culture of another beautiful family. Whoever can spare room for a group of hardy heaths may plant among them the bog orchideæ; the chalk ones are better by themselves. Hardy heaths, orchideæ, ferns, and bog American plants, may be considered as the gems of the Botanical Flower Garden. — *Cond.*

ART. II. *Observations on Chinese Scenery, Plants, and Gardening, made on a Visit to the City of Canton and its Environs, in the Years 1793 and 1794; being an Extract from the Journal of Mr. James Main, sent thither by the late Gilbert Slater, Esq. of Layton, Essex, to collect the Double Camellias, &c.* Communicated by Mr. MAIN.

On the first view of the coast of China the stranger concludes that the inhabitants are a nation of gardeners. Even the fields, in the southern provinces, are almost all cultivated by manual labour; and every thing shows the indefatigable industry of the cultivators.

On entering the mouth of Canton river, and having ascended to the Bocca Tigris, (an old Portuguese name for a fortified part of the river,) the banks begin to collapse, and present to the exploring eye of the botanist their vegetable productions. He sees the general surface of the country, a level, widely-extended, and well-cultivated plain, intersected in all directions by navigable canals; diversified by abrupt and craggy hills, scattered here and there over the face of the country. Beneath the brow of one stands a grove of *laurus sasafra*s; under the cultivated slope of another is seen the citron tribes, mixed with other fruits, and overhung by the majestic and splendid *Bombax ceiba*. Within and around the grotesque yet airy habitations which hang suspended, as it were, over the sedgy margin of the river, is seen magnolias, ixoras, chrysanthemums, &c. in great profusion. After an interesting passage up the river, the stranger enters the suburbs of the city. Here he is surprised to see the number of flowers and flowering

plants which every where meet his eye: every house, window, and court-yard are filled with them!

Stepping on shore, he is conducted to the Hong, (domicile,) of his nation. Thence he visits every place to which he can have access, in search of plants. By special favour he is allowed to visit the gardens of Monqua, an opulent security merchant, in the southern suburb, or, which is more gratifying, the more extensive garden and palace of Shykinqua, on the opposite side of the river. He enters a vast assemblage of buildings for every purpose of life, of various size and character. Among these the seraglios for the old as well as for the young wives of the proprietor; and the chapel, where are deposited the ashes of his ancestors, are the most conspicuous and splendid. Proceeding onwards, he is conducted to the garden. Here no *coup-d'œil* calls for admiration, no extent of undulating lawn, no lengthened vista, no depth of shadowy grove, no sky-reflecting expanse of water, — nothing presents itself but a little world of insignificant intricacy. The ground appropriated as a flower and pleasure garden is a space of two or three acres, laid out in numberless little square plots, surrounded, parted, and re-parted by low walls of brick-work, surmounted by broad copings, on which are set in order porcelain pots of all shapes and sizes, containing flowers and flowering shrubs. The exterior, as well as the interior walls of the garden, are covered with most ridiculously fantastic trellis work (fig. 36.), on which are trained various climbing

36



and creeping plants. The walks, or rather paths, are neither wide nor level enough for comfortable or even safe walking, — intentionally uneven and broken into holes and foot-traps!

The *piests*, or ponds of water, an indispensable feature in a Chinese garden, are thickly covered with "the green mantle of the standing pool," to obtain which they bestow no small pains! One of their favourite walks deserves particular description, because they consider it a *chef-d'œuvre* of the gardener's art: a wall, eight or nine feet high, is built along one side of a pond, betwixt which and the wall a narrow irregular path is made, but so narrow, that it is with much difficulty a person can edge himself along it; and, as the water is permitted to reach the wall in different places by breaks made in the walk, there is even danger of slipping into the water almost at every step; and this difficulty is called "pleasure" to the walker himself, or at least to the beholders of his embarrassment! Another peculiarity in their garden walks is, when leading through a group of trees and shrubs it must pass between *the thickest* of the stems, for no other purpose than to produce annoyance to the pedestrian.

In short, except the beauty and rarity of the plants, the visitor finds nothing interesting in their style of gardening: no scope of ornamental disposition; no rational design; the whole being an incongruous combination of unnatural association. (*fig. 37.*) In one place a piece of craggy rock (real

or artificial) is seen jutting out from among a tuft of the most delicate garden flowers; fantastic bridges without water, — unsightly excavations without character or beauty, — the whole

being only a repetition of petty attempts at variety, on no greater scale than the patch-work of a citizen's court-yard.

In some instances they appear to have a relish for some of the most striking features of uncultivated nature; such as antique trees (*fig. 38.*), rugged rocks, mossy caves, &c.; but

these are all imitated on such a diminutive scale, that the attempts are truly ridiculous.

This love of the grotesque not only appears in their gardens, but also is frequently seen in the yards of tradesmen in the city. A pile of rugged stones is placed in a corner; on this *dwarfed* trees and flowers are planted; and in order to produce a resemblance of a grove of pines in miniature, they plant the common *Equisetum* (horse tail) for the purpose!

There is one curiosity in Chinese gardening which rarely escapes the notice of Europeans, viz. their specimens of dwarfed forest-trees. To train such, they plant a young tree in a small porcelain pot, either round, square, or most commonly an elongated square, twelve or fourteen inches long, eight inches wide, and about five in depth. Along with the tree they place pieces of rugged stone to represent rocks, among which moss and lichens are introduced. The tree thus planted is not allowed to rise higher than about a foot or fifteen inches. No greater supply of water is given than is just sufficient to keep it alive; and as

the pot soon acts as a prison, its growth is necessarily impeded; at the same time every means are used to check its enlargement. The points of the shoots, and the half of every new leaf, are constantly and carefully cut off; the stem and branches, which are allowed to extend only a certain length, are bound, and fantastically distorted, by means of wire; the bark is lacerated to produce protuberances, asperities, and cracks. One branch is partly broken through, and allowed to hang down, as if by accident; another is mutilated, to represent a dead stump: in short, every exertion of the plant is checked by some studied violence or other. This treatment produces, in course of time, a forest-tree in perfect miniature! Stunted and deformed by the above means, it certainly becomes a curious object, bearing all the marks of extreme old age. Its writhed and knotty stem, weather-stained and scabrous bark, its distorted and partly-dead branches, its diminutive shoots and leaves, all give it the aspect of an antique vegetable dwarf! Various kinds of trees are chosen for this purpose; but two most commonly met with are the *Ulmus parvifolia sinensis**, and a species of *Ficus*, very much like the *Indica*.

But in the midst of all this perversion of the harmony of nature, this display of vitiated taste, the European is highly pleased with the arrangement and neatness of their nurseries, the unceasing care bestowed on their potted collections of plants, and the great value set upon some of them, even among themselves. The *florimania* is even more prevalent in China than in Europe. One hundred dollars is freely given for fine specimens of favourite plants, such as the Macklan, (*Epidendrum fuscatum*, valued for its delightful odour,) (*fig. 39.*) which is not at all an uncommon plant! and some of the fine coloured Moutan (*Pæonia Moutan*) are also highly prized; but *they* are brought from the northern provinces, not being cultivated about Canton.

In their botanical nomenclature there is no scientific classification attended to, except in two instances, if such they may be called, viz. all plants having Narcissus-like leaves, such as

* This tree bears the rigour of our winters, as appears from one now growing in the garden of the Reverend Mr. Norris, of Grove Street, Hackney.

Epidendrum, *Tankervilla*, *Amomum*, &c. have the substantive *Lan* prefixed, which may be Englished *Lily*; and their favourite class, containing *Thea*, *Camellia*, *Pyrus*, have always *Tcha* as the generic name, which may be Englished *Tea*, and these are distinguished from each other by specific adjectives, as red, white, high, low, &c. But though the Chinese have, it would appear, no scientific list of their plants, it must be owned that no nation possesses a greater number of vegetable blessings, nor have any people on earth turned such to more account. Their silk, their cotton, their various kinds of fruits, grain, pulse, and roots, but, above all, their invaluable *Tea-plant*, has added to the wealth, the sanative luxury, and dietetic comfort, of half the world.

Chelsea, January 8. 1827.

ART. III. *On the Importance of adopting and pursuing a proper Plan for pruning and training Fruit Trees; with a Description of an approved Method of training the Peach and Nectarine.* By Mr. ALFRED KENDALL, Gardener to the Reverend H. Palmer, at Carlton Curlieu Hall.

Dear Sir,

THE task imposed by G. P. upon the professors of gardening, in the *Gardener's Magazine*, (vol. i. p. 466.) is one particularly adapted for this season of the year; but, at the same time, it is one of the most difficult that could be imposed: not from the nature of the thing itself, but from the various opinions of authors upon the subject, no two of these agreeing in their directions, yet all in the end aiming at producing the same object, viz. a fine healthy tree. Besides, almost every gardener has a method of pruning, from which it is extremely difficult to win him; and in the limits of a paper calculated for insertion in a work like the one this is intended for, it is impossible to enter into details to meet every exigence connected with the art of pruning. Now as all writers upon the subject agree, that a tree pruned in a masterly manner must possess the following characters, — uniformity as to figure, equal distribution of bearing wood all over its surface, and a fine healthy appearance, — it only remains to point out the best and easiest method for producing such a tree. In pruning, as in architecture, the end proposed must never be lost sight of; and whatever system is commenced (unless it be a bad one), it ought steadily to be adhered to. Is it not equally ridiculous for a gardener to

prune a tree, without understanding the system he commences upon, as for an architect to build a house without a plan? Yet, how often do we see men pruning trees, who are totally unfit for such an office? The consequence is, that gentlemen, after building walls and making borders, instead of having their expectations realised, are rewarded with barren and unsightly trees, to their own no small mortification, and, I may add, to the disgrace of their gardener. Nothing in the whole art of gardening demands the attention of gardeners, from the highest down to the very lowest class, more than the art of pruning: every gardener must practise it, whether he understands it or not; and surely where such an important office is entrusted to his care, he ought to endeavour all that in him lies to make himself master of as much of the art as possible. In the following observations I have chosen that class of trees which, in my opinion, demands the first attention, not only from their fruit being the first in esteem, but also from their being the most liable to be spoiled by injudicious management; viz. the peach and the nectarine. The apricot and the morella cherry may, with very little variation, be subjected to the same treatment. But in submitting the following plan to your consideration, I by no means recommend it as the very best, only as ~~one~~ amongst the best, it being designed more particularly to illustrate the observations I have made; and I shall be happy to see it give place to better. Several other methods, judiciously managed, will prove equally good, particularly that described by W. Seymour (*Gard. Mag.* vol. i. p. 128.): it is founded on good principles, and, if applied horizontally, would be admirable for low walls.

In the art of pruning there are two cases to be considered; the first and easiest is that wherein the operator is supposed to commence with the planting of the tree, and the second is where the tree has been under a course of mismanagement. But before I proceed in this course of pruning, allow me to make a few observations upon the method of making the border for the reception of the tree; for unless that be properly done, it is in vain to expect a tree to thrive for any length of time, though ever so well managed with regard to pruning.

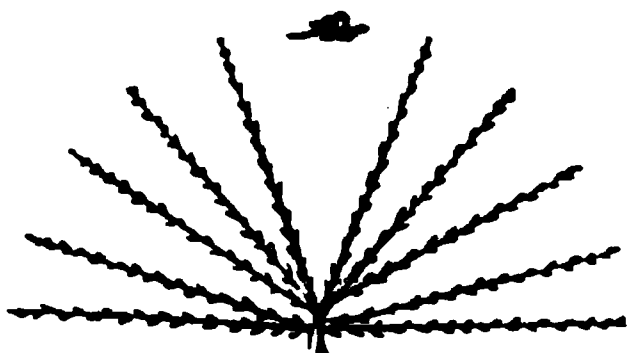
The soil best adapted for almost every sort of fruit-tree is a naturally rich sandy loam; but as that cannot be procured in all places, the gardener must endeavour to make a compost as near to it as possible. In making the border it should be at least two feet deep, especially where vegetables are grown upon it; a practice almost generally adopted, though justly condemned by all writers upon pruning. It should be at least

fifteen feet wide; and if the whole width of the gravel-walk occupied a part of it, a great part of the objections to growing vegetables upon it would in consequence be removed. The bottom of the border should be made as much as possible impervious to the roots of the tree, by beating it; and if a clayey bottom, by beating into it fine gravel or lime rubbish, so as to make it quite hard. It should be laid in a sloping direction from the wall, with a drain in front, unless the substratum is of a porous nature, to carry off any water that would otherwise stagnate there. We will now suppose the border made, and the tree planted.

We will also suppose the tree to be a maiden plant, well rooted, and in a healthy condition. *Now* let the gardener consider what future character he wishes his tree to assume; for it is now in his power to give it what character he pleases: and now he lays the foundation of his future tree. But let him remember, it is absolutely necessary to have a plan, and to understand the plan he commences with, or, ten to one, in a few years his tree will cut a despicable figure; and to the many plans from which he may make his choice, permit me to add the following:—The maiden plant is to be headed down to four eyes, placed in such a manner as to throw out two shoots on each side, thus: (*fig. 40.*)



The following season the two uppermost shoots are to be headed down to three eyes, placed in such a manner as to throw out one leading shoot, and one shoot on each side; the two lowermost shoots are to be headed down to two eyes, so as to throw out one leading shoot, and one shoot on the uppermost side, thus: (*fig. 41.*) We have



now five leading shoots on each side, well placed, to form our future tree. Each of these shoots must be placed in the exact position in which they are to remain. As these shoots are to form the leading character of the future tree, none of them are to be shortened. The tree should by no means be suffered to bear any fruit this year. Each shoot must now be suffered to produce, besides the leading shoot at the extremity, two other shoots on the uppermost side, one near to the bottom, and one about midway the stem: there must also be one shoot on the undermost side, placed about midway between the other two. All the other shoots must be rubbed off in

their infant state. It will then assume a very good figure (*fig. 42.*) at the end of the third year. From this time it may be allowed to bear what crop of fruit the gardener thinks it able to carry; in doing which he ought never to over-rate the vigour of the tree. All of these shoots, except the leading ones, must at the proper season be shortened; but to what length must be left entirely to the judgment of the gardener, it of course depending upon the vigour of the tree. In shortening the shoot, care should be taken to cut back to a bud that will produce a shoot for the following year. Cut close to the bud, so that the wound may heal the following season. The following season each shoot at the extremity of the leading branches should produce, besides the leading shoot, one on the upper and two on the under part, more or less, according to the vigour of the tree; whilst each of the secondary branches should produce, besides the leading shoot, one other, placed near to the bottom: for the grand art of pruning, in all systems to which this class of trees are subjected, consists in preserving a sufficient quantity of young wood at the bottom of the tree; and on no account must the gardener cut clean away any shoots so placed, without well considering if it will be wanted, not only for the present, but for the future good appearance of the tree. The quantity of young wood annually laid in must depend upon the vigour of the tree. It would be ridiculous to lay the same quantity of wood into a weakly tree as into a tree in full vigour: the gardener here must use his own judgment. But, if any of the leading shoots manifest a disposition to outstrip the others, a larger portion of young wood must be laid in, and a greater quantity of fruit than usual suffered to ripen on such branch. At the same time, a smaller quantity of fruit than usual must be left to ripen on the weaker branch. This will tend to restore the equilibrium better than any other method that I am acquainted with. The annexed sketch (*fig. 43.*) presents us with the figure of the tree in a more advanced state, well balanced, and well calculated for an equal distribution of sap all over its surface. Whenever any of the lower shoots have advanced so far as to incommode the others, they should be cut back to a yearling shoot: this will give them room, and keep the lower part of the tree in order. In nail-

ing, be careful not to bruise any part of the shoot; the wounds made by the knife heal quickly, but a bruise often proves

incurable. Never let a nail gall any part of the tree: it will endanger the life of the branch. In nailing in the young shoots, dispose them as straight and as regular as possible: it will look workmanlike. Whatever system of training is pursued, the leading branches should be laid in in the exact position they are to remain; for, wherever a large branch is brought down to fill the lower part of the wall, the free ascent of the sap is obstructed by the extension of the upper and contraction of the lower parts of the branch. It is thus robbed of part of its former vigour, whilst it seldom fails to throw out immediately behind the part most bent one or more vigorous shoots. To assist the young practitioner in laying in the leading branches of the tree, the following method may, perhaps, be acceptable. Drive a nail into the wall, exactly where the centre of the tree is to be, then with a string and chalk describe a semicircle of any diameter: divide the quadrant into 90°; the lower branch will then take an elevation of about 12°, the second of about 27½°, the third about 43°, the fourth 58½°, and the fifth about 74½°. A nail should then be driven into each of these points, and the chalk rubbed off.

Where trees of the class treated of have been badly managed, it is extremely difficult, and in many cases totally impossible, ever to recover them so as to form sightly trees. Where such is the case, the best course will be to plant a young tree between each of the old ones, first turning over and renewing as large a portion of the border for each young tree as can be done with safety to the old ones, which will help to invigorate the old trees, and keep them in a bearing state, until the young trees have filled a sufficient portion of the wall, that the old

ones may be taken away: the remaining part of the border should then undergo the same process. Where trees are not very old, they may be recovered by heading down; but in the class of trees now under consideration, it is undoubtedly the best way to replant, in the manner recommended above, not only from the crop of fruit they will still afford, but it gives an opportunity of examining the state of the border, and also of replacing any bad sorts by other more esteemed varieties.

In planting, it is a bad maxim to plant the earliest and latest sorts indiscriminately: they should be placed separately in the order of ripening, especially on flued walls. A great saving of labour and fuel is thereby afforded, not to mention other advantages. I remain, Sir,

Your sincere well-wisher,
ALFRED KENDALL.

*Carlton Curlieu Hall,
Leicestershire, Nov. 22. 1826.*

ART. IV. *On the Culture of Brugmansia Arborea.* By Mr. JAMES GIBSON, Gardener to T. N. Longman, Esq. F.H.S. Hampstead.

Sir,

THE *Brugmansia arborea*, being a magnificent flowering plant, in order to have a fine display in small pots, I was induced to try the following method, which has succeeded to my utmost wishes. In the month of February I procure a shoot of last year's growth, and divide it into separate pieces, each containing a bud, or eye, as in propagating the vine. These I plant in a pot of light rich loam, covering them about half an inch deep. I then place them in the hot-house, or in a frame; and when the buds rise about three inches high, I find they are plentifully supplied with roots. I then put them singly into small pots, and as they advance in growth they are occasionally shifted into larger pots, and I supply them plentifully with water during their progress. Plants treated in this way will flower in October of the same year. I have them at this time (Oct. 20.) from about two to three feet high, with from six to twelve flowers upon each

plant. I send you one as a specimen (*fig. 44.*), which has been in flower for the last fortnight, and I shall have some in flower till the end of November.

I have often thought that the London flower growers might profit by putting this method in practice, the flowers being so peculiarly showy that they cannot fail of attracting general admiration. It would, however, be desirable that the plants should flower in April and the succeeding months till October; and I am now making experiments with that object in view, the result of which I shall be happy to communicate through the medium of your valuable work.

I am, Sir, &c.

JAMES GIBSON.

Hampstead, Oct. 20. 1826.

ART. V. *On the present State of Gardening in Ireland, with Hints for its future Improvement.* By Mr. JAMES FRASER.

(Continued from vol. i. p. 265.)

To the northward of the environs of Dublin there is little interesting, in a horticultural point of view, until we reach the neighbourhood of Drogheda, except the following places, which we will briefly notice.

Hampton, the seat of the Rev. G. Hamilton, adjoining the town of Balbriggan, is a place of considerable extent; and, although the gardens cannot be ranked with those of the first

class, there is throughout the demesne much worthy of observation. The grounds gradually rise over an inlet of the sea which runs up to the town of Balbriggan, and from which the spray dashes with considerable violence upon the north boundary plantation. In planting the grounds, the late Mr. Hamilton has, with much judgment, made use of those trees best suited to resist the marine breeze. Of these the Pineaster is decidedly the hardiest, and bears up against the storm when all others fail. The *Populus monilifera* and *Salix alba* are the next in this class; and in this exposed site they appear to grow better than the common alder and sycamore. We have heard it said by experienced planters, that the Norway maple is better suited for exposed places on the sea-coast; but of this we have had no ocular demonstration. Hampton, as a demesne, possesses many beauties; and if a little more pains were bestowed upon the plantations, they would soon amply repay the proprietor. By the contrary mode of treatment, both beauty and subsequent benefits are sacrificed. The gardens, though possessing many natural advantages, are by no means kept in such a manner as we would expect from a wealthy resident gentleman. In passing through the grounds we observed a few bushes of the *Salix pentandria* growing on the margin of a stream near the garden: its size, together with its large glossy light-green leaves, struck us forcibly, and in our humble opinion entitle this hitherto-neglected shrub to the notice of the ornamental planter. By the side of a river, or on the margin of a wood, particularly if moist grounds, it is well worthy of a place. Near the same place there is an uncommon fine tree of the *Salix fragilis*; and there are in the pleasure-grounds several fine specimens of ornamental shrubs.

Not far from Hampton, on the banks of the Nanny-water, a small river which slowly sweeps its tributary waters through many a winding maze, stands Balygort, the residence of Colonel Peppar. We mention this delightful and retired spot in order to introduce a place little spoken of, where an excellent garden is well kept, and where neatness and order in every department eminently prevail. In the lawn we noticed several well-grown Turkey oaks; one, in particular, promises to be an uncommon large tree. Unless where the situation is very exposed, this species of oak grows equally well with the common. In the outskirts of the demesne are several handsome trees of the trembling poplar, wholly neglected, and as it were outcasts from the society of other trees. This is the general fate of the aspen throughout this country: we

would be glad to know upon what principles of taste this elegant and, in some respects, useful tree, has been expelled the wood, the forest, the grove, and the lawn? To us its total banishment seems irreconcilable with any just conceptions of beauty or of right feeling.

Gormanston, the seat of the Viscount of that name, is not far from this, but in the adjoining county, Meath. The appearance of the large baronial house, with its surrounding plantations, are certainly calculated to raise the expectations of the horticultural tourist unaccustomed to traverse the places of former days in this county. In this, as in most of the noblemen's demesnes in Meath, he will find himself somewhat disappointed. Suffice it to say, that the grounds are here well kept; the boundaries of the demesne have been lately greatly extended, and considerable additions made to the plantations: the gardens are extensive; and there is the best modern shrubbery we have met with north of the metropolis. Near the family-chapel there is an old parterre, laid out, as we were informed, by a French clergyman, in the topiary style, which, notwithstanding its formality, struck us, as at least an admissible innovation on the more natural designs now so generally practised. There are here some beautiful trees of the red and white cedar.

Townly-Hall, the property of B. Balfour, Esq. within three miles of the town of Drogheda, is one of the most interesting places we met with on our northern tour. It is situated near the Boyne, directly over the obelisk commemorative of the battle named after that river. Mr. Balfour is a gentleman of great practical experience in rural matters, and personally directs the principal improvements on his extensive estates. He is the most spirited planter in this part of the country, excepting Lord Oriel. A fine wooded glen runs through the demesne, on the eastern bank of which the principal approach to the house has been judiciously carried. The extensive young plantations are suffering much by want of thinning and pruning; a circumstance to be regretted in a place of this magnitude, and where business is carried on with such spirit. We will venture to suggest to Mr. B. the propriety of consulting a professional man in these matters, or of employing an experienced forester to manage his woods, so far as regards the matters referred to. Townly-Hall bids fair to be one of the most magnificent demesnes in the kingdom; and every lover of rural ornament must regret any circumstance, however contingent, that would tend to mar the prospects of one of the most spirited planters we now can boast of. The gar-

dens are well kept in every department: the drest-grounds are upon a large scale, and contain an extensive collection of shrubs. In short, the whole place forms a striking contrast to those around.

Slane-Castle, the princely seat of the Marquis of Conynghame, is also situate on the Boyne, about five miles above Townly-Hall. The view of this place from the rising grounds on the south, comprehending the village, bridge, and mill of Slane, is perhaps the richest, if not the most beautiful in this part of the country. The demesne was laid out by the late Mr. Sutherland, about sixty years ago, then in the hey-day of his youth and fancy, and exhibits many of the beauties and defects peculiar to his style. Prejudging of effects, and harmonising the outlines with the surrounding scenery, seem matters too often lost sight of by him in some of his happiest designs, and he practised at a time when fancy might have its flight. The castle is situated on a small promontory, round which glides the deep and sullen waters of the Boyne. From hence a fine circuitous stretch of the river is seen to the eastward, and gradually losing itself under the umbrageous acclivity which on this point terminates the demesne. A casual effect as to tinting has been produced by a few evergreen oaks, which have been thrown into a broken recess on this finely wooded slope. This is evidently the result of accident, as, although this and many other parts of the demesne would in every sense justify grouping, so as to produce a diversity by their various tints, no attention whatever has been paid to the subject. The gardens and plantations of this place have been long neglected; not but gardeners of first-rate talents, with competent means, have been employed; but a favourite domestic, whose word was a law, during the long absence of the family, so managed as to thwart every improvement, and to render the situation utterly untenable. Now that this obstruction has been removed, and a competent person (Mr. Guthrie) brought over from London, the place will soon be reclaimed from the state of neglect in which it has so long lain. There are here some beautiful detached forest-trees; and the most picturesque acacia, (*Robinia*,) we remember to have seen, stands neglected in the eastern plantation. As a proof of the powers of the Canadian poplar to resist the storm, we may refer to the wood in question: on the most exposed point of which, when the oak, elm, &c. have been more or less injured, this tree bears up stoutly against the boisterous south-west blast.

Connected with this place is Beau-Parc, the residence of Gustavus Lambert, Esq. The Boyne to a certain extent separates the properties. From Slane-Castle to Beau-Parc-House (about a mile) the banks of the river are high, bold, and well wooded. The scenery, which is chiefly sylvan, is grand and sombre. The river is here of considerable breadth; and its dark sluggish waters, aided by the perpetual gloom thrown from the masses of spruce which overshadow it, tend to give a solemnity to the place highly suited to the contemplative mind. Near the termination of this stretch of the glen stands Beau-Parc-House, a small plain mansion. Had a castellated structure, with its towers and battlements, stood frowning over the precipice, instead of the tame city-looking building which here commands the whole of the scenery we have hastily glanced over, how different would have been the effect! In nine tenths of the modern country residences, we find buildings wholly unsuited to the localities of the place: castles where there is not a single feature to warrant such erections; and Grecian buildings amid the wildest scenery. These are serious faults; but until landscape-gardening forms a part of the education of professional architects, we may in vain look for a remedy. Along the banks of the river we observed a few trees of the ashen-leaved maple and entire-leaved ash. The singularly yellowish-green pinnated leaves of the maple and the entire dark leaves of the ash produce a striking contrast with those of the common trees around. On the borders of a plantation the former might answer well when a relief was necessary from heavy masses of oak, &c.: the latter is a robust growing tree in any situation, and the leaves are of a different shade from those usually planted. The common varieties of the pine-tribe thrive uncommonly well here, and a good many seedlings are raised from them for the Dublin market. In those departments of this demesne, to which our observations were more particularly directed, every thing is in the best possible order.

A little below the conflux of the Black-water with the Boyne, there is an extensive range of young plantations, belonging to Fitzherbert and Richard Ruxton, Esqrs. Considerable taste has been displayed in the disposition of the woods; and it is pleasing to observe the care that is bestowed on them. The plantations already add much to the beauty of the river and the vicinity of Navan. Ardbracon, the diocesan house of Meath, is a few miles to the westward of Navan; a residence in every way worthy so wealthy a benefice. During the time of the two last incumbents, this place was kept in

good order; at present we are sorry to observe a falling off in those matters under our consideration. The gardens and plantations were principally made during the incumbency of Bishop Maxwell. In the back lawn are several beautiful American thorns, scarlet oaks, &c., the handsomest trees of *Fraxinus ornus*, and the most magnificent horse-chesnut we have any where seen; and in front of the green-house there are two charming cedars of Lebanon. The gardens are in the antique style, (peculiar to some of the older places about London,) being blended with the shrubbery, by which you are led imperceptibly from one compartment to another. In this neighbourhood we were agreeably surprised on meeting with the most extensive nursery in Ireland, called Ballybeg, the property of Mr. Patrick O'Rielly:—above fifty English acres an under-nursery. His mode of lining out the trees is peculiar to himself, so far as we have seen; and it will be at least admitted, as advantageous to the planter. In order to obviate the complaints generally made against nurserymen, of having their trees too much drawn up by close planting, he plants alternate rows of different ages: for example, at the second transplanting of the larger sorts, they are left five feet asunder, and in the intervening spaces are planted a row of one or two year olds from the seed-bed, and so on; by which mode the air has free access on all sides. Mr. O'Rielly, junior, directs his attention to the ornamental department, in which he eminently excels. He visits England regularly, and spares no expense in procuring every new and rare hardy plant as they are introduced. In fine, for forest, fruit trees, and shrubs, this nursery may be ranked with Messrs. Dicksons' of Edinburgh, Austin's of Glasgow, Bannerman's of Liverpool, or Miller's of Bristol.

(*To be continued.*)

ART. VI. *Description of a new Trap for catching Winged Insects in Gardens.* By Mr. JOHN WILSON, Journeyman in Welbeck-Gardens, Nottinghamshire.

Sir,

As you were pleased to express so much satisfaction with the wasp and fly traps in use at Welbeck, I have (with the concurrence of Mr. Thompson) sent you a sketch and explanatory reference of them. Mr. Thompson wishes me to say that they did not originate at Welbeck, nor does he know the

inventor; but the cheap, simple, and effective principle of them cannot be too widely disseminated; and it will probably very soon be found worth the attention of glaziers, tin-men, and other artizans, to make them small and cheap for general use in dwelling-houses.

Take, a common hand-glass, the hexagonal or any other form will do (*fig. 45.*);

remove in the apex the

whole or part of three of

the panes (*a, b, c.*). Then

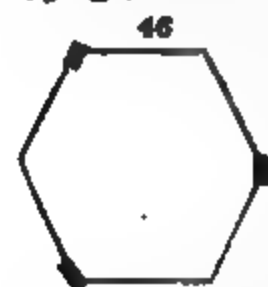
take a second hand-glass,

which must be of the same

form as the first, and

place it on the roof of the first, so that the sides of the one may coincide with the sides of the other; then all the interstices

between the bottom of the one and the eaves of the other, (at *e, f, g,*) must be stopped with moss, wool, or any suitable sub-



stance, which will prevent the

entrance or exit of flies. The

bottom hand-glass must rest

on three pieces of bricks

(*fig. 46.*), to form an open-

ing underneath. The ap-

pearance of the trap when

completed is simply that of

one hand-glass above another. (*fig. 47.*)

Fragments of waste fruit are laid on the ground, under the bottom hand-glass, to attract the flies, which, having once entered, never descend again to get out, but rise into the upper glass, and buzz about under its roof, till, fatigued and exhausted, they drop down, and are seen lying dead on the roof of the under glass. One of these traps, placed conspicuously on the ground before a fruit-wall or hot-house, acts as a decoy. It is surprising to see the eagerness with which all kinds of insects go to examine it, and seeing various kinds of their fellows within, they enter also, and flying upwards, buzz through the open panes, (*a, b, c,*) and perish altogether in the cavity between the two hand-glasses;—from whence we have added many curious specimens to our collection of insects, particularly several species of *Papilio*, *Phalæna*, *Tipula*, &c. &c. (*Turton's System of Nature*, vol. iii.)

I am, Sir, &c.

JOHN WILSON.

Welbeck-Gardens, Oct. 31. 1826.

ART. VII. *On the Cultivation and Improvement of Cineraria cruenta.* By Mr. JAMES DRUMMOND, A. L. S. C. M. H. S. Curator of the Botanic Garden at Cork.

Sir,

THE different species of green-house *Cinerarias* are great favourites with me, and especially the *C. cruenta* (*fig. 48.*); for, besides the great beauty and variety in the flowers of the latter species, it produces them in the months of December, January, and February, when it has but few rivals in the green-house; and in the months of March and April its fine purple blossoms form a beautiful contrast with the *Acacia decipiens*, and other plants of that class; and, in my opinion, it surpasses even the hawthorn in the fragrance of its flowers; yet, from some cause or other, we seldom see it cultivated to the extent it merits. Should the following account of the method I have followed for some years of growing this plant appear to you worth insertion in your valuable Magazine, it may turn the attention of some of your numerous readers to the cultivation of the *C. cruenta*, the effects of which will, in all probability, be the production of fine double and single varieties, of different colours, as it sports greatly from seed.

Except in cases when it becomes desirable to preserve any particular variety for its superior beauty, I prefer raising the *C. cruenta* every year from seeds, which the plant perfects with me in the months of April and May. Care should be taken to select the finest varieties, and those that produce the largest and finest heads or corymbs of flowers. The plants must be daily attended to when ripening their seed, as the flowers retain their beauty until the very day the seeds are scattered with the wind, a remarkable and valuable property in this fine winter flower. I sow the seeds immediately when ripe, in pots of light rich earth, and place them in a hot-bed. The plants come up very small and feeble at first, but as they get two or three leaves, I plant them singly in pots of the smallest size, and shift them, as I find they require it, into larger ones, giving them the same soil and treatment I give young balsams. By the first of October, if the plants have been well attended to during the summer, they will fill pots nine inches in diameter, and be throwing up strong flower-stalks from the centre of each. At this time I place them in an open part of the

green-house, and supply them occasionally with water, containing liquid manure, composed of soap-suds, and other matters, which I find of great service to the plants.

Cinerarias treated in this way begin to flower in December, and continue increasing in size and beauty for several months, until their corymbs reach a foot or eighteen inches in diameter. Such varieties of *C. cruenta* as I think worth preserving for more than one season, I cut down about the end of May, and place the pots on a dry shelf in the green-house, supplying them very sparingly with water. About the first of August I re-pot them, dividing the roots, and treating them in other respects as I do seedling plants, but they rarely reach the size they do the first year from seeds.

The other green-house species of cineraria I cultivate are *lanata* (*fig. 49. a*), *hybrida*, *geifolia* (*b*), and *amelloides* (*c*): these I increase by cuttings, planted about midsummer, and treated in other respects as *cruenta*, my object being to have a few plants of each in flower with the latter. To have them in perfection, they should not be more than one year old; and they do not require pots more than half the size of seedling *cruentas*. With hearty wishes for the success of the Gardener's Magazine, which is a great treat to persons situated as I am, in remote parts of the country, I am, Sir, &c.

JAMES DRUMMOND.

Cork Botanic Garden, Oct. 18. 1826.

ART. VIII. *On the Plan of closing the Smoke Flues of Hothouses and other Buildings that are heated only in the Day-time, for the Purpose of preserving a Warm Temperature during the Night, &c.* By Mr. WILLIAM FLAVEL, Ironmonger, Leamington Spa.

Sir,

YOUR Magazine (vol. i. p. 430.) contains some remarks on a paper by the Reverend George Swayne "On the Manage-

ment of Hot-house Flues, so as to keep up a nearly equal Temperature during the Night ;" upon which I take leave to offer a few remarks.

The plan of closing the chimnies of all buildings that are heated only in the day-time with a view to preserve a warm temperature during the night, was long since recommended by a practical writer to whom the sciences of agriculture and gardening owe much, — Dr. James Anderson.

It was observed by Dr. A. (*Recreations in Agriculture, &c.* vol. ii. p. 156.) that "when a fire is suffered to die out and no means are employed to close the chimney, the warm air within it, instead of gradually communicating its heat to the cooler air of the room, rushes rapidly forward, until it reaches the open atmosphere, where it is dispersed and lost. A stream of cold air is from that moment forced up the chimney, to supply the place of that which is heated by the bricks as it passes along, and thus escapes upwards. In this way the whole chimney is, as it were, washed with a continued stream of cold air, and the heat that was in it, and which, without this washing, would have continued many hours, is carried off in the most rapid manner that could be devised." Hence the necessity (on the common plan of warming hot-houses and other buildings) for keeping the fires burning night and day, to prevent that alternation of heat and cold, which we are so desirous of guarding against; for, without continual fires, it will be perceived that the means we employ for obtaining warmth during the day, are equally adapted to produce cold during the night. The register grate does, indeed, afford some remedy for this evil; but if a damper were inserted in the flue, and closed at bed-time during the winter months, it is evident that much cold would be excluded; and, in the winter season, open chimnies for the purpose of ventilation will not be found necessary during the intervals of repose.

That great practical philosopher Count Rumford, more than thirty years ago, predicted that a time would come when open fires would disappear, even in our dwelling-houses and more elegant apartments.

"Genial warmth," he remarks, (in his tenth essay,) "can certainly be kept up, and perfect ventilation effected, much better without these than with them; and though I am myself still child enough to be pleased with the brilliant appearance of burning fuel, yet I cannot help thinking, that something else might be invented, equally attractive to draw my attention, and amuse my sight, that would be less injurious to my eyes, less expensive, and less attended with dirt, ashes, and other unwholesome and disagreeable objects."

Various plans have been devised, pursuant to the Count's suggestion for warming and ventilating buildings, with a view to obtain more equable temperatures, the authors of which have also recommended the discontinuance of open fire-places. But open fires do not seem destined to disappear in the present age, although the improved methods of warming buildings (especially that of introducing air from without, and passing it in a current over a body of heated matter, and thence to the apartments required to be warmed,) are daily gaining ground. Let but our chimney-builders and grate-

makers avail themselves of the information afforded by Dr. Anderson, Count Rumford, and other later writers, and let them so contrive their works, that they may be opened and closed at pleasure, and the most weighty objections of the new school to open fire-places will be obviated. Then may we expect that proposals for introducing streams of warm air (without at once giving up the occasional enjoyment of radiant heat from an open grate) will be favourably received by a numerous and enlightened class of persons.

In adwelling-house recently erected here, I have, besides open grates, introduced an apparatus by Mr. Boyce, author of "*Remarks of the different Systems of warming and ventilating Buildings*, 1826." This apparatus is so contrived, that the masses of heated matter between which the air is made to pass, retain, like a common oven, a high degree of heat for many hours after the fire is extinguished, so that any close building, warmed by it in the day, undergoes but little change of temperature during the night; indeed, on the following morning, streams of warm air continue to flow in through the valves provided for that purpose.

The plan is very simple, and its effect powerful beyond conception. Nothing appears to me so well adapted to the heating of hot-houses. No night-watching with it would be necessary; and little or no danger from negligence need be apprehended.

I am aware that Mr. Tredgold, in his excellent treatise on this subject, estimates the loss of heat from the extensive surface of glass required in a hot-house as unavoidable, and very great; and, to compensate for this loss, I would propose that the fire, instead of being suffered to die out in the evening, (as in a dwelling-house,) should be replenished with fuel, before the hot-house is left for the night; in which case, a self-acting ventilator to regulate the temperature, as noticed in the Gardener's Magazine, (vol. i. p. 419.) might be useful. But, perhaps, a still better plan would be, *when the fuel in the stove is in a red heat, and combustion has nearly ceased, to close the chimney by a damper, for the purpose of cutting off its communication with the external atmosphere, and thus to bottle up the heat*, (if I may be allowed the expression,) *on the plan recommended by Dr. Anderson.*

Mr. Boyce uses no damper in the smoke-flue of his apparatus, but I am persuaded a damper might be applied with advantage; and the amount of its effect, it is my intention, at no distant period, to ascertain by experiment.

It is, I presume, no small advantage for horticultural purposes, that, upon this system, water may be evaporated, and taken up with the air, on its passage to, and before it enters, the hot-house, affording the means of making artificial dew, and of imitating the tropical climates.

I am, Sir, &c.

WILLIAM FLAVEL.

Leamington Spa, Dec. 1. 1826.

ART. IX. *An improved Method of growing Celery.* By Mr. GEORGE GLEDSTON, Gardener to Raleigh Trevelyan, Esq. at Netherwitton, Northumberland.

Sir,

AFTER upwards of thirty years practical experience, I most respectfully offer to your notice the following observations :

I know of no plant cultivated in the kitchen-garden more in request than celery (*Apium graveolens*), and none that has produced more disappointment, particularly when planted in dry sandy soil with a gravelly bottom. It ought to be imprinted on the minds of all practical gardeners, that the plant in question, in its native state, is found in ditches and other wet situations. If the following method be put in practice, it will prove a complete remedy for the evil complained of.

Select a piece of ground in an open situation, if level the better. If the celery is grown in single trenches, they ought to be five feet apart ; if six feet trenches, and planted across, leave five feet between. But to proceed with the single trench ; this must be thrown out three feet wide and three and a half deep, — place a stake in the centre at each end of the trench, make the bottom level, beat in clay regularly to the thickness of six inches : then lay two courses of stones or bricks lengthways of the trench, and parallel to each other, leaving a space of one foot six inches between. Each course ought to be eight or nine inches thick, and laid in lime mortar. The clay should be well pointed to the stones, to make all water tight, this being the only utility the clay and stones are intended for.

The trenches are now to be filled to the height of the stones, with a composition of strong clay loam, common earth, and rotten dung. Then pour in as much water as the trench will hold, making the whole a sort of puddle. It will be advisable to lay a slate or flat stone down the centre of each trench, to prevent the clay from being injured by any unskilful hand

that may be employed in taking up the celery, or renewing the composition in the trenches. Level down the soil to and over the stones, filling the trench in the centre with the above composition to two feet from the bottom: this places the plants fifteen inches above the puddle, and forms a trench one foot below the surface, which is an advantage in earthing up the plants.

Where early celery is required, it is advisable to sow a little seed in the first or second week in February. Where there is the convenience of a vinery, sow it either in boxes or pots, giving the plants plenty of air as soon as they vegetate: plants grown in heat are more apt to run to seed than when sown in the open ground. As soon as the plants are fit to transplant, provide a slight hot-bed, cover the inside of the frame with flat stones or slates, laying their edges close to each other; then cover the stones or slates with strong fresh loam and rotten dung to the depth of four inches. As soon as the soil is warm, fill the frame with the young plants three inches apart each way, observe to take off all the tap roots, give a little water, and put on the lights. Give plenty of air, and when the plants are well rooted take off the lights every mild day, and leave plenty of air at nights; when the plants have become tolerably strong and hardy, remove the lights altogether, and cover only at nights with a mat, watering freely in dry weather. When the plants have reached the height of six or eight inches, they ought then to be removed into the trenches; cut the plants out in squares, placing them carefully about eight inches apart in the trench. When this work is performed by a careful and active hand they will scarce feel their removal; their roots will reach the puddle in the space of fifteen or twenty days, when their growth will be accelerated in a rapid degree. There will be a visible change in their external appearance, from an ordinary hue to a deep dark green nearly bordering upon black. When the plants have grown to the height of eighteen or twenty inches, they will then require a little earthing up; but be sure to give a good watering first, and place a little water-run sand round each plant, which keeps all clean and free from worm-eating and canker. Where a retentive bottom is found, this preparation is not necessary; but to prevent worm-eating or canker, when the trenches are prepared in the ordinary way, draw a drill, three inches deep, in the centre of each trench, fill the drill with sand, and plant as usual.

I am fully aware there will be objections to this method of culture, and many an experienced gardener will find great

difficulty in procuring the materials, although they are of very little value; even the leading will be tardily complied with, unless gentlemen will be pointed in giving their land-agents strict orders to do so, (*which I hope in future will be particularly attended to.*) As celery is intended to be planted yearly in the trenches, there will be no loss of ground, as some may anticipate, as all can be levelled down and cropped with any kind of vegetable that will be gathered before the time to plant celery.

If a good stock of celery plants are planted in a composition as directed above (but not in a hot-bed), upon a piece of ground beat hard to prevent the roots striking deep, you may with these plants fill the early celery trenches the second time in the same year, and one quarter of the dung used in the common way will do to renew the trenches after the first year. By allowing the plants four inches distance from each other in the composition, they will grow strong and remove when twelve or fifteen inches high, and be soon ready to earth up.

I am, Sir, &c.

GEORGE GLEDSTON.

Netherwitton, near Morpeth, Northumberland,

Sept. 7. 1826.

ART. X. *List of select New Pears introduced by John Braddick, Esq. F.H.S. with their Time of ripening and other Particulars. Communicated by Mr. BRADDICK.*

Dear Sir,

IN consequence of the many applications which are daily making to me, respecting the characters of such new pears as have fruited in my collection, I judge that it will be of service to those who may be desirous of possessing the most approved varieties of new pears, to set down the best of them, in the order that they become fit for the dessert. And here I think it necessary to premise, that the following list is the cream skimmed off some thousands of new pears, which I have for many years past been getting together from various parts of the world, about two thirds of which yet remain for trial, not having fruited, together with some thousands of seedling pears, apples, plums, cherries, apricots, peaches, and grapes, of my own raising; the fruits of some of which I hope will continue to gladden the hearts of horticulturists for many centuries. to

come. As they are produced I will make them known to the public, with as much facility as lies in my power, and remain, &c.
Boughton Mount, July 29. 1826. JOHN BRADDICK.

Names of approved New Pears.	Time of ripening.	How and where grown in Surry.	From whom buds or grafts were received.
Imperatrice d'Été	August.	Standard.	M. Von Mons, Louvain.
Belle Lucrative	September.	Standard.	M. Stoffels, Malines.
Roi de Wurtemberg	October.	Espalier and wall.	M. Von Mons, Louvain.
Gros Dillen	Oct. and Nov.	Espalier and wall.	M. Von Mons, Louvain.
Seckle	Oct. and Nov.	Standard, espalier, and wall.	Doctor Hosack, New York.
Marie Christien	Oct. and Nov.	Standard and espalier.	M. Von Mons, Louvain.
Beurrée Spence	Oct. and Nov.	Standard, espalier, and wall.	M. Von Mons, Louvain.
Marie Louise	November.	Standard, espalier, and wall.	{ Roger Wilbraham, Esq. Twickenham.
Napoleon	December.	Wall.	{ Roger Wilbraham, Esq. Twickenham.
D'Arenberg	Dec. and Jan.	Espalier and wall.	Duke d'Arenberg, Brussels.
Bonne Malinoise, or Bonne de Malines	Dec. and Jan.	Espalier and wall.	Chevalier Neillis, Malines.
Present de Malines	December.	Standard, espalier, and wall.	{ From the garden of the late Count Coloma, Malines.
Stoffel's d'Hiver	Jan. and Feb.	Standard. Baking pear, } very great bearer.	M. Wygers, Malines.
Passe Colmar. This pear is known by the name of Chapman's Pear.	Jan. and Feb.	Wall.	M. Noisette, Paris.
Poire d'Anana	Feb. and Mar.	Wall.	M. Stoffels, Malines.
Grande Bretagne } Dorée }	Mar. April, } and May. }	Wall.	M. Stoffels, Malines.
Prince de Printemps	April, May.	Wall.	M. Stoffels, Malines.

Buds and grafts of the above pears I gave, as soon as their qualities could be ascertained, to those nurserymen mentioned in vol. i. of the Gardener's Magazine, p. 145., of whom, I presume, plants by this time may be had.

The Marie Louise and Napoleon I found in every good collection on the Continent; but as great confusion has arisen in the names, by many of the Continentalists mistaking the pear raised by Von Mons, called the Emperor de France, for the Napoleon, and another pear raised by the same hand, called the Imperatrice de France, for the Marie Louise, I therefore choose to name my much-valued friend Mr. Wilbraham as the person to whom our country is indebted for making known the valuable qualities of these two fine fruits. In his garden the true sorts are to be found.

ART. XI. *On Salt as a Manure, and on the Economical and Medical Uses to which various common Wild Plants are applied by the Cottagers in Devonshire.* By W. COLLYNS, Esq. Surgeon.

Sir,

My little pamphlet on the "Use and Abuse of Salt as a Manure," being now in the hands of the printers, I hope

shortly to be able to send you a copy [we have since received it, see Part II. Art. 3.]; but, in the mean time, I must observe to you, on your suggestion that "salt may stimulate both arable or pasture land, without being a manure," that Sir Humphry Davy says, in the *Agricultural Chemistry*, "when common salt acts as a manure, it is, probably, by entering into the composition of the plant in the same manner as gypsum," &c.

Mr. G. Sinclair, in a prize essay on salt as a manure, gives the following analysis of wheat, to which forty-four bushels of salt per acre had been applied :

		Ashes.	Soluble Salt.	Common Salt.
1450 grains of chaff afforded	-	40	20	10
1450 ditto grain yielded	-	10	3	$\frac{1}{4}$

Wheat sown without Salt.

1450 grains chaff gave	-	50	18	$2\frac{1}{2}$
1450 ditto grain gave	-	10	3	$\frac{1}{4}$

Is not common salt, then, taken up by the roots of plants, as a material of food? Must not salt be, therefore, a manure? To ascertain this, I have caused seeds of wheat, barley, and oats to vegetate in water that had been filtered and boiled, and others of the same sort of seeds, in water containing a hundredth part of its weight of common salt in solution; the result is, that the plants growing in the salt and water, have greatly surpassed the others in size and growth. I have evaporated the water containing the salt, and found, after a month's growth of the plants in it, that it had lost fifteen per cent. of salt: I have reduced the plants to ashes, and have recovered the fifteen per cent. of salt from them; tell me, then, if salt is not a manure, what is?

I fear I can suggest no substitute for salt or sugar, with which your emigrants could flavour their hay-tea; but after the tarpaulin soup, tripe de la roche tea, and the fried sole (of shoes) powder of Franklin and Richardson, dire necessity would render even hay-tea palatable without either.

I proceed to give you some account of the uses to which many of our indigenous plants are applied by the cottagers in Devonshire; and as you mention the crow garlic, I will begin with that, being the *allium vineale*, which, with the wild garlic, *allium oleraceum*, is used as a condiment with potatoes fried: the young shoots, too, of both sorts are eaten with bread and butter, and boiled in broth, and our labourers have an opinion of their anti-nephritic qualities in gravel.

Arum maculatum, or Wake-robin. The root of this, in its recent state, is highly esteemed as a remedy for rheumatism, used in the following manner:—Two drachms of the fresh root, washed, and the thin outer skin rubbed off, are well beaten with an equal quantity of the powder of gum guaiacum, to which half an ounce of honey is then added, and the whole well rubbed together; of this a small tea-spoonful is taken three times a-day.

Achillea millefolium, Yarrow. A strong decoction of this herb is recommended by our village nurses, in all cases of uterine hæmorrhage, both as a drink and an injection.

Asplenium scolopendrium, Hartstongue; is used in decoction for consumptive people, and for weak lungs.

Agrimonia Eupatoria, common Agrimony. An infusion of this is used as a tea in feverish colds.

Anethum fœniculum, Dill. An infusion of the bruised seeds, as a diaphoretic in rheumatism; the bruised seeds boiled in their pap, as a carminative for infants.

Althæa officinalis, Marshmallow. The leaves are used, bruised, in emollient cataplasms and fomentations; an infusion of the root, as a mucilaginous drink for gravel, gonorrhœa, dysentery, &c., and as an injection for the last.

Anagallis arvensis, Pimpernel. The infusion drank as an alterative.

Angelica Archangelica. The leaves infused in cider and water, with balm and borage, for a cool drink in summer.

Anthemis nobilis, Chamomile. The leaves and flowers are used in fomentations, the infusion of the flowers as a bitter drink to strengthen the stomach; half an ounce of the dried flowers, half an ounce of dried orange-peel, one drachm of ginger, infused in a quart of boiling water: a tea-cupful drank twice a-day. The flowers dried and powdered are frequently given in doses of fifteen or twenty grains, with from three to five grains of rhubarb, and ten of cream of tartar, two, three, or four times a-day in the second stage of bilious remittent fever.

Arctium lappa, Burdock. Two ounces of the recent root, boiled in three pints of water to a quart, a tea-cupful taken three times a-day; greatly esteemed for eruptions on the skin, and as an antiscorbutic.

For the present I must conclude, but hope to go through our native plants for you in time; and wishing your useful undertaking every success, I am, Sir, &c.

W. COLLYNS.

Kenton, near Exeter, October 26. 1826.

ART. XII. *Remarks and cautionary Hints respecting Experiments with Salt as a Manure.* By AGRONOME.

Dear Sir,

I CAN no longer resist the temptation under which I have been labouring for some time, viz. to commence author, and endeavour to make myself immortal, like yourself, and a great many more of my old acquaintances. I cannot see why I should not succeed as well as another; I have had as much experience in farming and gardening as most men, and have read almost all the useful, and even the useless or silly books, on these subjects. But I shall commence my authorship by paying a compliment to the Gardener's Magazine, which, in a short time, will prove to be worth all your other works. It is just such a thing as was wanted among gardeners, who, if they do not now become enlightened, the fault must be entirely their own; and if the Magazine be not an useful, instructive, and entertaining work, *we*, your correspondents, will be as much in fault as yourself: for should you get dull or insipid at any time, there will always be some one or other among us to rouse you up. I myself will not be without giving you a little of my mind occasionally, on various subjects; for though I may not have time or patience to write a folio volume, I can write a folio letter any winter's evening, and so may any gardener, (there lies the beauty of the Magazine!) and I shall likely be asking as many questions as I give answers to the questions of others; for though I am so old, and have had so much experience, I still find that I am very ignorant in a great many things: and yet I do not think I am one of those who are "always learning, yet never come to the knowledge of the truth."

It is considerably more than twenty years ago since I thought myself as good a gardener and farmer as any nobleman or gentleman could possibly desire to have. I had fulfilled the office of cow-boy, shepherd-boy, and plough-man in farmers' service, for six years, and had spent six years more in the gardens of three first-rate noblemen, in five different counties, and was, at the time alluded to, in the forcing department of a very celebrated gentleman, famous for many things besides a gallery of pictures in Pall Mall, and under a no less celebrated gardener, famous for many things besides patent hot-houses, not a hundred miles from Blackheath, and in the habit of visiting all the royal, and most of the noble or celebrated estates, gardens, and nurseries for many miles round the metropolis. Since that time I have practised farming and

gardening in various and remote parts of Great Britain and Ireland; so if I can give no account of my practice, or not write a letter, or even a book, fit to be read, it must be entirely owing to my want of brains, or, rather, the proper bumps on my cranium.

Well, Sir, your first article for this year being on the employment of salt as a manure, by Mr. G. W. Johnson, I see you have invited several gardeners to try experiments with salt, and give you the results for next year; but as I think "delays are dangerous," I shall forestall or monopolize the whole business to myself, and tell you at once, that *salt is not a manure* at all, any more than it is human food, or animal food, which it positively is not. Yet, that some lands and some crops are really benefited by the application of salt, is equally certain; so are some constitutions benefited by taking physic: but will any one say from this, that Epsom Salts, Glauber Salts, Saltpetre, &c. possess such and such a quantity of food? or that sea water will fatten hogs better than fresh water? I have seen tried, and tried myself, innumerable experiments with salt; so have many others, particularly Mr. S——, of New Cross, which he has kindly made public in the Farmer's Journal, and otherwise: most of which experiments I have proved to be correct, though some people affect to sneer at both him and his experiments. Even in the Number of the Farmer's Journal for the 8th of this month, the writer of a letter dated from Halfmoon Street, (which letter I pronounce little better than half-moonshine,) prefers the old-fashioned spud for extirpating thistles, and hints that thistle seed will vegetate on the salted ground, and not on that which was spudded. This seems very odd; and Mr. G. W. Johnson seems to be of a similar opinion when he says, that weeds grow more luxuriously on walks after having been killed by *salt*. I have often heard the same thing said of spudding thistles, or killing vermin, &c.; "kill one, and ten comes to the funeral."

I shall conclude this letter with two anecdotes of experiments with salt. A few months ago I saw a fallow field, which had been much neglected; it seemed little else than a bed of thistles, about a foot high. It was sown with salt, about twenty-five bushels per acre, which cost at the salt-works 10s.: they do not measure it nor weigh it, but you may fill a three-horse cart for 10s. In a few days the soil assumed a different colour from any of the surrounding fields, and every thistle was as dead as if it had been scalded with boiling water. A little labour soon made the field into a pretty good fallow; and the wheat on it now looks as well as most in the neighbour-

hood. My last anecdote happened about thirty years ago. A market gardener, not one hundred miles from a northern metropolis, being much annoyed by the roots, and also the branches, of a row of great old ash-trees, which grew on the end of his strawberry beds, &c., he had frequently solicited his landlord to have them cut down, but without effect; he told him they were old and unsightly, had done growing, &c. &c.: all would not do. At length honest Peter had recourse to his friend salt, which he administered to the roots of the trees in *quantum suff.*, taking care to cut as much of the bark under the surface as he conveniently could. Thus both the ascending and descending sap was completely converted into brine, and the landlord was soon convinced that Peter was correct in saying that the trees had done growing, for they never put forth another leaf. The above is worth recording, in order to warn young gardeners not to be too busy trying experiments with salt on the roots of valuable trees; as for Mr. Johnson's pinks and carnations, they may salt them to their tastes. Yours, &c.

AGRONOME.

ART. XIII. *An effectual Mode of destroying the Aphis lanigera, or American Blight, on Fruit Trees.* By Mr. JAMES DANN, Gardener to the Earl Mann-Cornwallis, at Linton Place, near Maidstone.

Sir,

I BEG leave to offer you my method of arresting the progress and destroying the *Aphis lanigera* on apple-trees, which I have found to succeed in nine instances out of ten. The sharp-pointed stick used by Mr. Huddleston will not do. Every good surgeon knows, that a wound extending to the fine membrane that covers the bone in the human frame, requires more skill and attention to heal it, than one that is superficial; consequently they probe the wound to the bottom, and eradicate all foul and rotten substances before they attempt a cure. Just so must every gardener proceed with his fruit-trees, before he can expect to destroy the aphid, or cure the wounds on their stems and branches of canker and other excrescences.

The method which I invariably pursue is, first of all, to scrape off with a blunt instrument all lichens, and loose or rotten bark from the stems and branches; then pare off the edges of the cankered holes and other excrescences where it is possible for the aphid or any other insect to lodge in, and,

with a woodman's racer, gouge, and chisel, scoop out all the cankered and rotten wood, until I find a clean live surface at the bottom of each wounded part. In saying this, I do not mean to recommend wanton lacerations: I have seen the ill effects of scoring the stems of trees as it is practised by some gardeners, farmers, and others, when it is supposed the trees are bark-bound. These excoriations are sure to harbour the aphids and other insects.

I will engage, with the undermentioned medication, and by using the above method, to bring sound wood in the stems and branches of fruit-trees in general, although after the operation of cleansing the wounded parts, there may not be more than one inch of sound bark to carry on the circulation of the sap, provided the stems or branches be properly supported.

I use the following, viz. Two quarts of vegetable tar, half an ounce of corrosive sublimate, half an ounce of spirit of salt, and one gill of spirit of hartshorn.

The sublimate must be pounded in a marble mortar, adding the spirit of salt by degrees, to dissolve the mercury; next add the hartshorn, rubbing altogether until completely mixed. Provide an earthen glazed pipkin, and put in the poisonous liquid; add the tar, by degrees, constantly stirring it, to prevent its running over. I take an old painter's brush, and cover all the wounded parts with the mixture, which will adhere and give way to nothing but the growing wood and bark. It is necessary to use earthen ware, as the mercury will corrode metal or wood.

Wherever this mixture is applied, it will infallibly destroy the aphids, or any other insect, and prevent emigrants from infested trees from lodging on the wounded parts, or feeding on the juices of the young growing bark. Owing to its poisonous quality, no person need be afraid of any mischief to any domestic animal, as the noxious smell and taste of the tar prevents every danger. I am, Sir, &c.

JAMES DANN.

Linton Place, Dec. 6. 1826.

ART. XIV. *On the Destruction of the Meally Bug, Coccus lanigera, on Vines and Plants in Pots.* By Mr. JAMES STRACHAN, Gardener to Edward Harman, Esq. F.H.S. Clayhill, Enfield, Middlesex.

Sir,

THE vines and other plants in the hot-houses at this place having been for a long time much infested with the white

meally bug, I tried various methods to extirpate that insect, but found nothing so effectual as soft soap. Having stripped off the loose bark of the vines, I coated over the shoots with the soap in the same state in which it is received. I then steeped between two and three lbs. in hot water for a quarter of an hour, adding cold water, and working it up with my hands into a lather; I continued adding cold water, till it was of a temperature which would not injure the leaves of the plants when thrown on them, and then washed the plants and every part of the house with the engine. This being done in the evening, I shut the house up till the following morning, when I had the lather applied to every plant, leaf, and crevice in the house with a small painter's brush. After this I put a little fresh mould on the surface of the pots; this was about two months ago, and I have never since seen the least appearance of the bug in the house. I would recommend every gardener to see that any new plant which he may receive into his stock is quite free from this pestiferous insect, which multiplies with extraordinary rapidity. I am, Sir, &c.

JAMES STRACHAN.

Clayhill, Enfield, Jan. 1. 1827.

ART. XV. *On budding Peaches on Almond Stocks, with reference to Mr. Anderson's Paper on that Subject.* By CAUSIDICUS.

Sir,

It would be presumptuous in me to offer any observations that might appear to militate with the conclusions of that most experienced, skilful, and acute observer of nature Mr. Wm. Anderson, of the Chelsea garden, were it not manifest to all philosophic reasoners, that a general induction from partial premises occasionally leads to erroneous conclusions. Mr. Anderson's experiment in budding the peach and nectarine on almond stocks, has been tried on the hot dry gravel of Chelsea, a soil invaluable in acclimating numerous foreign plants, the natives of warmer climates, which even if not natives of a siliceous gravel, yet find in the porous and warm stratum in which Mr. Anderson naturalises them, a palliative of the British winter for the loss of the richer and moister soil, in which, combined with the advantage of warmer climate, they luxuriated in their native country. But it is only a palliative. If a plant loves argill and heat, argill and cold and moisture

might murder it downright, while gravel, drought, and cold only starve it, or afflict it with gradual and incurable decay. To come to the point. The almond delights in stiff clay and strong loam. I say not that it may not be poisoned by wet stagnating on stiff clay; but give it draining, and give it even a moderately warm climate in Britain, and your almond on clay does well. Many have unfortunately experienced that the peach and nectarine, grafted on the ordinary stocks, and planted on clay, are diseased, unproductive, and of short duration. But on those soils the peach and nectarine, budded on almond stocks, have a decided superiority. The Parisian nurserymen bud their peaches and nectarines principally on almond stocks, and those are found highly productive, and I have heard no complaint derogatory to their pre-eminence, when planted on very strong clay soils in this country; as, for instance, on the London blue clay. A specimen may be enquired for in the gardens of William Agar, Esq. at Elm Grove, on the banks of the Regent's Canal, in the road from London to Highgate, who about six years since, finding the failure on his soil of British Stocks, planted a considerable number budded on almond stocks, which he obtained from that most intelligent, zealous, and active friend to horticultural improvement, M. Vilmorin, St. Andrieux, 32. Quai de Mégisserie, Paris. It is true, that these trees are yet young, but let those who wish to investigate the universality of the application of Mr. Anderson's experiment, keep their eye upon Mr. Agar's trees, and mark the result.

I would subscribe my name, were I not a member of a profession, to excel in which, it is too often supposed that its professors ought to know nothing else, and wish to know nothing else beyond its peculiar studies. I know not whether of the two would be the more injurious to me, to have it believed that I could write a good anacreontic song, or that I was a good gardener. I am, Sir, &c.

CAUSIDICUS.

Oct. 26. 1826.

ART. XVI. *Observations on Mr. Anderson's Experiments with Peaches and Apricots budded on Almond Stocks.* By HORTULANUS.

Sir,

MR. ANDERSON has expressed a wish that further trials should be made in respect to the almond as a stock for peaches.

I am inclined to think that Mr. Anderson's experiments are quite sufficient to convince every one that the peach budded on the almond will not succeed in this climate. He certainly adopted the best methods for ascertaining the point by sowing the seed and budding the stock where it was to remain, it being one objection, and that not a small one, to its general use, that the almond forms tap roots with scarcely any fibres, and on that account much uncertainty attends its transplantation. Even with this treatment, Mr. Anderson is not successful, as he finds his trees, when just coming into bearing, die off like rotten sheep; and I think Mr. Anderson accounts for it very satisfactorily, when he says, "It should be observed, that the almond tree usually continues growing, even till checked by the frost in December." There can be no doubt, therefore, that there is the same excitement when it is a stock for a peach, and as the superstructure is dormant, there must be a disagreement between the parties, as it may be called an unnatural union.

In regard to the practice abroad, I cannot take upon me to say that it is not done, but I think, if so, only on a limited scale; though it may do better in a warmer country, the almond being a native of Barbary. I am certain this is not the general mode abroad. I have seen some hundreds of peach, nectarine, and apricot trees, brought from France and Holland, not budded on almond but on plum stocks, and so well united with the stock, and appearing so healthy, that many of the trees were purchased for the sake of the stocks, and planted for stools, and the produce of which at this time are held in the greatest estimation for the purpose of budding the more tender kinds on, viz. those generally termed French peaches, &c. I think you are misinformed, Mr. Conductor, on the subject of the stocks used in Germany, as the St. Julien is the Brussels of this country, which is a very exceptionable stock for building any kind of fruit-tree on. I am sure the Damson must be inapplicable altogether. I am, &c.

HORTULANUS.

Dec. 27. 1826.

Our authority for stating that the Damson plum (Damas Noir) was used as a stock on the Continent, is the *Bon Jardinier* (1826, p. 258.), but possibly the plants alluded to may be different from the damson of this country. A writer in the *Irish Farmer's Journal*, in reference to this subject, says, "The late Sir William Newcomen, of Killester, near Dublin, had almost all his peach, nectarine, and moor park apricots

inoculated on stocks raised from the kernels of the green gage plum, and I understand with uncommon success." — *Cond.*

ART. XVII. *Description of the Iron-work and Glazing of the Conservatory at the Grange, the Seat of Alexander Baring, Esq., M.P., F.H.S. Hampshire, erected by Messrs. Jones and Clark, Birmingham.* Communicated by Messrs. JONES and CLARK.

Sir,

WE beg leave to send you an engraved perspective view (from which we have taken *fig. 50.*) of the interior of a con-
so

servatory, which we had the honour to erect for Alexander Baring, Esq. M. P., at his seat, the Grange, Hampshire, in the autumn of 1824, and which has already been noticed in the *Gardener's Magazine* (vol. i. p. 108.). This magnificent structure is about 100 feet in length, by 50 in breadth, outside dimensions. The roof is wholly composed of metal and glass, the lights of wrought-iron rims, and copper bars, being supported by cast-iron rafters, communicating with gutters or spouts of the same materials; over the walks is thrown an arched covering, formed of double plates of sheet-iron, resting upon a frame-work of cast-iron, the whole being supported by four ranges of columns, also of cast-iron, extending the whole length of the conservatory. The lights composing the roof are glazed upon an improved circular plan, with perforated leaded laps, which not only prevents all breakage from frost, but at the same time carries off all the condensed steam from within the house. The front and ends of the conservatory

consist of French doors, or casements, with transomes and side-lights, 18 feet 4 inches in height, with deal framing and copper bars; and between the casements are pilasters of brick, faced with Roman cement, and surmounted with an entablature, also of brick and cement. The whole of the conservatory, with the exception of the brick and stone work, was executed, and its different parts put together, at our manufactory in Birmingham, and afterwards erected in its present situation by our own workmen. The architect who furnished the original design, was C. R. Cockerell, Esq.; and we think we may safely venture to affirm that the conservatory at the Grange is not surpassed by any thing of the kind in the United Kingdom.

In the autumn of 1825, we put up a very beautiful conservatory for C. Baring Wall, Esq. M. P., at Norman Court; and have still more recently erected an elegant and highly ornamental octagonal-shaped conservatory at Shavington Hall, Salop, the seat of the Earl of Kilmorey.

We are, Sir, respectfully, &c.

JONES AND CLARK.

*Metallic Hot-house Manufactory, 55. Lionel Street,
Birmingham, Jan. 27. 1827.*

ART. XVIII. *On the Mode of cultivating Early Potatoes in Denbighshire.* By a DENBIGHSHIRE GARDENER.

Sir,

IN Vol. I. p. 405. of the Gardener's Magazine, R. W. acquaints your readers how the Lancashire cultivators prepare their early crops of potatoes; permit me to make known the Denbighshire practice.

The sorts we chiefly cultivate for early crops, are the Foxley, the Nelson, and early kidneys, which are pretty nearly equal in times of ripening. I shall confine myself to the early kidneys, which seem to be nearly like R. W.'s "Lady's Fingers," or "early Rufford kidney potato."

We take up all intended for seed next year before they are ripe, just when the outer skin peels off, and before the stalk or stem begins to wither; they are then laid upon a gravel walk, fully exposed to the sun, for a month or six weeks, when they become quite green and soft, as if roasted, and often much shrivelled; they are then put away, and protected as other potatoes are. In February we examine them, when we

generally find every eye full of long sprouts fit to be planted: they are then cut as described by R. W.; but less economically, as we seldom make more than two sets from each tuber, — the eye, or top part, and the root, or bottom part. We plant them as described by him, the eyes upwards in both parts; and we observe, as described by him, that the potatoes from the eye or top sets are earlier by a fortnight; and that from those planted in the common ground. And let me observe, in by no means the warmest or richest part of our country, the writer had a dish of ripe potatoes at dinner last Whitsunday the 14th of May, and the same every day since, from successional crops, until the 20th of July, when the common potatoes came into use.

You will perhaps wish to know how we secure the successional crops of the same varieties. In February 1818, the writer procured the above varieties from town, and they were planted the latter end of March; although treated as the other potatoes, they were three weeks or a month earlier than the general crops. Before they were ripe, as before described, every other row was taken up, and the potatoes exposed to the influence of the scorching sun; the other rows were left until ripe, and were laid up with those taken up unripe, care being taken to keep each sort separate. In December they were examined. Every eye of those taken up unripe had a sprout almost an inch long, the tuber itself quite soft, and all wrinkles had disappeared; while those left to grow ripe, were as hard as when laid up, showing no appearance of vegetation. In February they were again examined. Those taken up unripe were covered with sprouts from six to eight inches long; those taken up ripe began to show sprouts. Each sort was then cut Lancashire fashion, and planted the same day in alternate rows of ripe and unripe; and also the tops and bottoms of both sorts were set separately in alternate rows. In the beginning of April, every plant from the unripe sets was growing freely; the eye, or top sets, nine days or a fortnight earlier than the others; the plants from the ripe set were only beginning to appear; the eye sets of those were evidently earlier than the bottom. When planted on litter and stable dung, they were all covered with earth, about two or three inches deep, and were not earthed up, as is usually the case.

Brevity being essential to render your miscellany interesting, I will not at present enter into further detail, but state to you how they were taken up. The early potatoes not earthed up, grow close round the stalk or stem, like eggs in a nest, and so near the surface, that they may readily be picked off

with the finger, leaving the stalk or stem standing uninjured, to produce more potatoes from the runners. From the eye sets of the unripe tubers we had a full supply every day for a fortnight, when those from the bottom sets came into use for another fortnight; at that time potatoes from the eye or top sets from the ripe seed came into use, and were succeeded by potatoes from the bottom sets of the ripe seed. Those kept for seed, or the table, were earthed up as usual, and each row produced almost as large a crop as any two of the rows not earthed up — the luxury of an early potato being a greater object than the quantity.

The writer has this day examined the potatoes preserved for seed (taken up unripe) of the three varieties laid in the garden-house, northern aspect, upon a stone floor, and the sprouts from the eye, on the eye end of all are nearly an inch long, vigorous and strong.

By earthing up the potatoes, they become three weeks later. I could add much more, but fearful that I shall exhaust your patience, as well as that of your readers, I will now conclude.

I am, Sir,

A DENBIGHSHIRE GARDENER.

Nov. 9. 1826.

The above communication opens to view some new and important features in the cultivation of the early potato. The circumstance that earthing up retards the crop, and that plants after having borne one crop without being earthed up, will bear another after the operation of earthing, is important; the mode of preparing the seed on the gravel walk is not less so; and indeed the whole paper possesses great interest, both in respect to gentlemen's gardens, and the gardens of cottagers. Farther communications on the same and on other subjects are earnestly requested from our very intelligent correspondent.

Mr. Saul, in addition to his communication on the subject of potatoes, in our last Number (p. 47.), observes, that the sort principally used about Lancaster is the Foxley seedling; he has sent us a specimen of this potato, planted in a small pot, and some remarks, from which it appears he is of opinion that planting in pots, and protecting in a frame, green-house, or forcing-house, is the best mode for the earliest crop. His period of transplanting into the open air is the 1st of March; he also recommends a frequent change of sets, and that from land as different as possible in quality from that in which they are intended to be planted. — *Cond.*

ART. XIX. *On the Culture of Early Potatoes in Cornwall.*
By Mr. JAMES MITCHINSON, Gardener to E. W. Pendarves, Esq. M.P. F.H.S.

Sir,

I SUBMIT to you the following account of the management of early potatoes in the west of Cornwall.

They are planted on a warm border about the latter end of September, or beginning of October (at the latest), when they have time to attain sufficient growth before the autumnal frosts set in, previous to which they are covered over with long litter of any description, to exclude frost from their roots. By the latter end of December they will be fit for use, when they are taken up as wanted, and are found a valuable acquisition to our early forcing.

They are also of a very good quality, considering the disadvantage of the season they are grown in, which is generally very wet in this part of Cornwall. I have, however, grown them with great success in this manner. The sort I have always used is the early frame potato. I am, Sir, &c.

JAS. MITCHINSON.

Pendarves House, Jan. 26. 1827.

This communication shows the extraordinary difference in climate which exists in our island. Planting potatoes in September must, no doubt, appear very extraordinary to our Sutherland or even Aberdeenshire readers. — *Cond.*

ART. XX. *Description of the Black Raisin Grape; with some Account of the West's St. Peter and Poonah Varieties, and of the Culture and Management of Winter Grapes at Spring Grove.* By Mr. ISAAC OLDAKER, F.H.S. Gardener to Lady Banks.

Sir,

THE black raisin grape you so much admired, when you were at Spring Grove last summer, is now (Nov. 23.) ripe. It is superior in size to any grape I have seen in the English collection, and promises to be a valuable late grape; and I therefore flatter myself that a short description of it will be worthy of a place in the Gardener's Magazine.

It is an old grape in this country, although not much cultivated, and I believe very little known amongst gardeners

and horticulturists. A great many gardeners have been this autumn to see the unusual large crop of grapes on the West's St. Peter vine here (described vol. i. p. 36.); and they all have admired the size and beauty of the black raisin, and say it is new to them. I cannot determine whether it be the same kind of black raisin grape, that generally goes by that name in the nurseries; but I saw a stool of the same kind, and with the same name, this autumn, in Messrs. Whitley, Brames, and Milnes's nursery, at Fulham.

The wood is of a light brown colour, and long jointed; the buds are rather pointed, leaves large and very much serrated, with long red footstalks; the large bunches have two shoulders, berries oval, of a fine black colour when ripe, fleshy, but high flavoured; skin rather thick, which is very much in its favour for keeping after it is ripe. The habit of the vine is similar to that of the white muscat of Alexandria, in wood, leaves, and fruit; excepting the size and colour of the berries, and red footstalks of the leaves. It grows strong, and bears freely.

Late grapes not being in general cultivation, though so very desirable to noblemen and gentlemen, who reside at their country seats in the autumn and winter months, it may be useful to say a few words on the subject of winter grapes, and their management.

The West's St. Peter, Black raisin, and Poonah grapes, are the best for late crops of any that have come under my management; because, first, they grow very freely, which gives them strength to carry a great crop; secondly, they ripen their wood early in the summer, which is greatly in their favour for producing fruit the following year; thirdly, the leaves remain on them all the winter as fresh and green as in summer, and the vines at the same time continue in a growing state, which is of considerable importance, as it enables them to bring their fruit to perfection through the autumn and winter: also after the fruit is ripe, it will hang a longer time before it shrivels or decays when the leaves are fresh and green, than when they turn yellow and fall off.

My grapes being now ripe, I keep the house very dry, and from 50° to 55° of Fahrenheit; if kept much below that heat, the grapes will soon rot, and if much above, they will soon shrivel and not be fit for use.

The Raisin and West's St. Peter grapes are of one season, and require the same heat and the same management in every respect; the Poonah grape is late, and requires a greater heat to bring it to perfection than either of the other two, and if

planted in the same house, it should be at the hottest end; it requires more heat to bring it to perfection than any grape I know; the fruit is of a red colour, berries oval, fleshy, and thick skinned, bunches large, with shoulders. It is not so high flavoured as the St. Peter and Raisin, and one vine in a house I consider sufficient.

My vines at Spring Grove are planted in front of the house outside; the house at that time being a pine stove would not admit of their being planted inside: but I know from experience that they will both swell and ripen their fruit better when planted inside than out, especially if a good rich border be made, and the front wall and front flue be built on arches, so that the roots can make their way under them to the outside. I consider the chief cause of the house at Spring Grove keeping grapes so well to be, its being low, with a good slope to the roof, and flued all round, so that a gentle heat can be kept without making the flues very hot in any one place; the house is also proof from wet or drip, which is a very essential point to be observed, as a very little wet will rot ripe grapes at this season of the year.

The Raisin grape has a property which few other grapes have, when in a healthy state; it produces fruit at its lateral shoots in succession, so that there is ripe fruit, green fruit, and fruit in blossom at the same time. With judicious management, therefore, a supply of fresh grapes may be produced from it through the winter. I am, &c.

ISAAC OLDAKER.

Spring Grove, Nov. 28. 1826.

In the last paragraph of Mr. Oldaker's letter, he mentions a property of the raisin grape vine, which but seldom occurs in other vines, viz. the circumstance of its bearing and perfecting fruit *on the lateral shoots* of the same year, and so giving in succession a long extended vintage. This is a most valuable property of the raisin grape, and opens to the view of the cultivator a prospect, hitherto entirely beyond expectation; because, additional care and requisite cultivation *may be productive of advantages* never before contemplated; indeed, it may be the foundation of an entirely *new trait* in our vinery management. Mr. O. should be requested to write again on this quality of his favourite vine; because, in our ordinary summer management, the lateral, or water shoots, as the French call them, are usually displaced, and if displaced entirely, whence is the second crop? — *Note by an experienced Grape Cultivator.*

PART II.

REVIEWS.

ART. I. *Essay on the beneficial Direction of Rural Expenditure.*

By ROBERT SLANEY, Esq.

(Continued from Vol. II. p. 58.)

HAVING dwelt so long on the proofs of our position, that the condition of the agricultural labourer is much worse at present than it was half a century ago; that they have been stationary or retrograding, while all other classes have been advancing; and that, whereas their labour is at present more productive than it ever was, what they obtain for it is less;—it will not be necessary to dwell long on our second position, viz. that the character, as well as the condition of the agricultural labourer, has deteriorated.

This is almost a necessary, certainly a very common consequence of a degradation in the condition of any class of society. It may be that, in some instances, a falling off in character precedes and occasions a falling off in condition; in other cases, a falling off in condition precedes and occasions a falling off in character; and in other cases again, these two changes exhibit themselves alternately as cause and effect. For there is no truth more certain, more important, and less attended to than this, that in all that relates to the advancement or retrogradation of mankind, the same circumstances are alternately cause and effect. A despotic government produces those habits of thought, feeling, and action, which rivet despotism: a free government cherishes those opposite habits, which, in their turn, establish on a firmer and broader basis the principles of freedom.

So it is with respect to the character and condition of all classes more or less; and most especially of those who from their birth are placed in the lowest ranks of society, depending entirely on their labour for the support of themselves and children. Let them be sunk, from whatever causes, in their condition; and their hopes and efforts first, and then their wishes and desires, and ultimately their principles and habits sink.

That this is no exaggerated picture, no hypothetical reasoning, all who trace the moral history of the agricultural poor will be convinced. In the south of England, their condition, with regard to the wages of labour, is much worse than it is in the north of England; and, in general, we shall find that the degradation of their character follows in the same track. Go into the counties of Essex, Suffolk, Norfolk, Surrey, Sussex, Hampshire, &c. (we mention these because they are purely agricultural counties), and you will find the labourers miserably off; idle, because they cannot get work on any terms, or working hard for a most miserable pittance: and in these counties you will be stunned with complaints of thefts of all descriptions, from depredations on gates and hedges to most alarming and serious robberies, committed by persons of both sexes, and of all ages, from childhood that can barely carry off the fruit of its plunder. This, however, is only one proof of its depraved character; a change in feeling and manners, indicated by fawning at one time, and insolence at another; by a total loss of independence of mind; by acts of low and disgusting profligacy, too strongly point out the change in character and principle that has taken place. Let a person read the description of the English peasantry given by writers at the beginning and middle of the last century, and then let him visit any of the counties above specified, and he will be struck with the contrast between what he has read and what he sees and hears.

As we advance to the north of England, we find the condition of the peasantry better than it is in the south; their wages higher, their cottages more comfortable and cleanly, and better furnished; their wives and children better clad and more industrious, and some little provision made for the day of sickness, the season of old age, and for their offspring. Along with this not unfavourable condition will be found a much higher and firmer tone of moral feeling and principle; an enlightened sense of duty, and an anxious desire to act consistently with it.

These two circumstances being thus almost uniformly found together, what inference ought we to draw from their conjunction? — that condition acts on character, or that character acts on condition, or that they act mutually on each other? We think the last inference is the most substantially founded. But then another question arises: allowing reciprocal action of character and condition, in whichever of those the change first took place, it is obvious that circumstances must have produced this change. Supposing that a change in moral

character produced idleness and profligacy, and that hence originated poverty and wretchedness, what occasioned the change in moral character? or, on the other hand, supposing a great and permanent falling-off in wages or inability to procure work first existed, and then gave rise to moral degradation, what occasioned this depression of wages, this inability to procure work?

If we can get at this, the fountain-head of all the evil, we may hope to be able to point out the means by which it may be closed up, or at least prevented from sending forth a stream, which, to all present appearance, threatens to overwhelm the most numerous class of our population. We have no hesitation in tracing this in the following manner:—

No permanent lowering of the wages of labour or of the price of any commodity can take place, unless the proportion betwixt the supply and demand is altered; and this can be altered either by the supply being increased, while the demand continues the same; or by the demand being diminished, while the supply is stationary; or by the demand being diminished, while the supply is increased.

With respect to the price of any commodity: if the demand for it falls off, those who produce or manufacture it, soon learn to diminish the supply, so as to apportion it to the diminished demand; and thus secure to themselves the same rate, though not the same amount of profit.

But the case is different with respect to the wages of labour; and we believe that, whereas, during the last fifteen years, the demand for agricultural labour, in those counties of England where the greatest change in character and condition has taken place, has diminished considerably, — the supply of labour, the agricultural population, has increased; and, consequently, as either of these two circumstances, a diminished demand, or an increased supply, taken separately, must lower wages, it is obvious that their conjoint effect in lowering wages must be very great.

Whence has this arisen? In the first place, the very high prices of grain and other farming produce at several periods during the last thirty years, by enabling farmers to lay out increased capital, either in improving old land; or in cultivating new, created an increased demand for agricultural labour; and, consequently, raised wages. Hence many were induced to marry who otherwise would have remained single; hence the agricultural population increased.

These high prices of farming produce alternating with low prices, and having been for some years entirely supplanted by

comparatively very low prices, the farmer's capital proportionally fell: he could cultivate less land, or lay out less in improvement; and hence less demand for labour, many unemployed, and those employed obtaining very inadequate wages.

If such a falling off had taken place in any branch of trade, those engaged in it would, as soon as practicable, have brought down the supply to a level with the demand, by producing or manufacturing less; and had the agricultural population acted on this principle, the evil, as it affected them, would have been avoided.

On this principle they probably would have acted, had it not been for two circumstances. When their wages rose, they ought to have employed the increase in a manner which would not only have permanently benefited themselves and their children, but also have raised their condition in life; they ought to have raised the scale of their comforts and enjoyments, and to have considered what their increased wages would enable them to procure for the real good of themselves and their families, as equally indispensable with what their former wages could procure. Let us suppose that, before the rise in their wages, they would not have thought of marrying, unless there was a fair prospect of clothing their children in clean and decent apparel; if they had spent their increased wages in giving to their children a plain and useful education, they soon would have been accustomed to reckon that as indispensable as clothing for them, and, consequently, would not have thought of marrying till they had a prospect of obtaining both. When, therefore, wages fell below their raised wishes and plans, they would have abstained from marrying; and thus, at least, prevented a further reduction of wages.

But their conduct was the reverse: in most cases their increased wages were spent in an useless, if not a mischievous manner; in a manner which, by its debauchery, had a tendency to degrade their moral character, and actually to lower their notion of what was requisite before they married; or, perhaps, to render them totally regardless of what would be the result even when they married with no means of supporting a family.

Great, sudden, and frequent fluctuations in price or wages are most injurious, not only to the individuals who experience them, but to the nation at large. Of their injurious consequences, both our manufacturing and agricultural population have experienced a large portion; the scale of expenditure was raised, the limits of hopes and wants were extended dur-

ing the periods of excessive prices: and unfortunately, as we have just observed, these new hopes and wants were of a nature rather to degrade than to exalt the character. Hence, a reverse fell in full force on feeble minds, and still farther degradation of character ensued.

Here, then, we may trace one primary cause of the evils we complain of. But this cause would have been comparatively harmless, had not our system of poor-laws lent its aid. The redundant population, occasioned by great impulses given to manufacturing and agricultural labour, when no longer employed, not having been prudent and saving in the days of their prosperity, fell back on the poor-laws for their support; and a mortal blow was then struck into the best part of the character of our peasantry, when they began to regard support from the poor-rates as their right, and consequently not as a humiliation, to which only the most imperious necessity would have forced their forefathers to have submitted.

That population is degraded which is willing to submit to a narrower sphere of comforts than usual, rather than adopt the only means in their power to preserve those to which they have been accustomed. Let us suppose that they have been accustomed to regard 12s. a week as necessary before they will venture on marriage, and that circumstances reduce wages to 10s. If they still continue to marry as before, their ideas of comfort must be lowered, and ultimately their character as well as condition will be much deteriorated. But their character will suffer still more, though their condition, at first, not so much, if, when wages are lowered to 10s., they marry, looking forward to the poor-rates to make up the deficiency, or as a refuge in case of need.

That the cause of a falling off in character and condition rests entirely with the labouring classes, and that they alone possess the means of producing and maintaining, or reinstating that proportion between the demand for labour and the supply of it which will secure them a higher rank in society than they at present hold, is most clearly and forcibly laid down in the following quotation from a pamphlet recently published. *

"That wages depend on the proportion between population and capital, is tantamount to saying, that the greater share a man gets, the richer he will be. But it is never stated why the proportion between population and

* An Exposition of Fallacies on Rent, Tithes, &c. By a Member of the University of Cambridge. London, 8vo. 1826. pp. 64. — This is a very able pamphlet, exposing the absurdities of some of the doctrines of the new school of political economy; but not sound in all its own doctrines.

capital is different at one time and place from what it is at another, or what it is that induces such a condition of things as makes the shares different. To state how things vary, is not to state their absolute magnitude; for one may be indefinitely great, and another indefinitely small, and still both vary after the same law. A labourer in Ireland will live and bring up a family upon potatoes; a labourer in England will see the world unpeopled first. Why does not the labouring population in England increase, till wages are reduced to the same condition as in Ireland; or why is not the population in Ireland diminished, till it bears the same proportion to capital as in England? This is the question that wanted answering; and the answer would have pointed to another element essential to the determination of both wages and profits, and whose existence is incompatible with the solution advanced. And this element, as long since pointed out by Adam Smith, is the force of opinion and habit. Englishmen have the physical capability of living on potatoes, as much as other men, but fortunately they have not the habit; and though it might be wrong to say they would starve first in their own proper persons, they will utterly refuse to multiply upon such diet, the effect of which on population is ultimately the same. And the causes of these differences of habit are to be found in every thing that has affected the past or affects the present condition of society,—in ancient institutions, in modern improvements, in past and present laws, in battles lost and won, in reformations of religion, in the progress of science, in the manners of the higher classes, in the information of the lower, in every thing which man can neither suddenly alter nor create, and which connects his present mode of existence with that of his ancestors and his posterity. Fluctuations will be perpetually taking place in the existing proportion between population and capital; but the element, which, in the midst of these, keeps the average rate of wages to one point and not to another, or which determines the point to which wages shall tend as to a mean, is not physical, but mental. There may be a lowest physical point somewhere, but happily all civilised and most uncivilised nations are considerably above it. The New Hollander may approach the lowest physical point, when he feeds on worms; but this has no bearing on the question, why one man lives on beef and another on potatoes, for both diets are happily far removed from that of the New Hollander. The Englishman will not live and bring up a family upon potatoes, because, though he may consent to live on them when he can positively procure nothing else, habit, custom, the opinion of those around him, have made it in his eyes contemptible, irrational, absurd, for a man to be living on potatoes, when he has the opportunity of getting any thing better. In his hours of prosperity, therefore, he will to a certainty solace himself with bacon, and most probably venture upon beef; and as this absorbs a greater portion of his income, in what he views as necessary to his individual existence, it proportionally reduces his disposition to burthen himself with new mouths. If the Irishman had the prospect of all this bacon and beef, he would view it as convertible into potatoes for a family like a patriarch's. The Englishman thinks it but decency to swallow all, and omits the family.

“And as opinions and habits determine the final or average proportion which shall be maintained between the numbers of the labouring population and the funds for their support, or, in other words, determine the average rate of wages,—so they also determine the average rate of profits of stock, which are only the wages of another description of labourers, consisting partly of the recompense of present labour exerted in the form of superintendence, and partly of the recompense of past labour exerted in the creation of their capital. Public opinion and custom require, for example, that a shopkeeper shall wear a good coat, shall drink at all times malt liquor, and sometimes wine, and give them to his neighbours;—that his

wife and daughters, if he has any, shall wear clean linen, and, moreover, not wash it themselves,—and that when they travel, it shall be by the stage-coach, and not by the waggon. Though he may do without some or other of these things in a certain degree, when necessity presses hardest, he cannot and will not do without them in the main. If, therefore, he is a man of foresight, he will at all events defer adding to the population of shopkeepers, till he sees a fair prospect of supporting a family in the way which public opinion pronounces to be respectable. But if he engages in it without foresight, he will keep down the population of shopkeepers in another way; for he will break. Bankruptcy is the check to the indefinite multiplication of traders, as the evils arising from diminished food are the check to the indefinite multiplication of the lower classes of labourers. In the same manner, if the higher orders of traders would, or could, do without a certain rate of expenditure, they might remit something of their rate of profits. If a great brewer, for example, would drive his family to the two-shilling gallery in one of his own drays, or a banker be content, as in India, to sit on a mud-floor in the shop of his forefathers, and retire to swallow rice with the condiment of ghee, there would be some chance of the thing being brought to pass. But 'the crowning city' has determined that her merchants shall be princes, and her traffickers the honourable of the earth; and they neither can nor will resist the award. The opinion of society, therefore, is what in the long run determines and keeps up the rate of recompense in this class as well as in the other; and, though there may be individual exceptions, men in general will break sooner than not live up to what is expected from them. The difficulty is not in finding men who will live up to this mark, but in finding men who will live within their means. The profits of stock, like wages, may be momentarily elevated or depressed by the fluctuations in the proportion between the business to be done, and the men who are to do it. When business is scarce, the competition may to a certain degree induce traders to do it at a cheaper rate, and the contrary. But if the scarcity of business is permanent, traders will begin to go out by the horn gate of bankruptcy, and so the balance will be preserved." (p. 32.)

Having pointed out the cause of the evil, the remedy is not obscure. Give a good education to your agricultural population; let a good moral and intellectual education expand their views and wishes; teach them to regard a reasonable prospect of a greater portion of comforts, and those of a higher order, as absolutely necessary to them, without which they would no more think of marrying than they would at present, if they had the prospect of an Irish mud cabin, children in rags, and potatoes for their only food; teach them, along with this expansion of wishes, this elevation of character, to look to themselves alone for all they need or desire; for instance, let them determine not to marry till they can give their children a good useful education at *their own expence*; and their wages will in time rise so high as to enable them to accomplish it; and this will in all respects be infinitely better than all schemes for educating them by charitable assistance.

But this must be a work of time, of another generation. What, in the mean time, is to become of the present genera-

tion? How are their distresses to be relieved? Till agricultural labour descends more nearly to the level of the regular demand, how is its superfluity to be occupied? If we can accomplish this, we shall not only better their condition, but at least prevent the further deterioration of their character.

Our next and concluding paper will therefore be occupied with this subject; and in it we shall pay particular attention to Mr. Slaney's plans, and to the plans and suggestions contained in the following two pamphlets:

"Colonies at Home; or, the Means for rendering the Industrious Labourer independent of Parish Relief: and for Providing for the Poor Population of Ireland, by the Cultivation of the Soil. London. 1826.. Pamph. 27 pp. and 2 pl." And "Thoughts on the Expediency of a General Provident Institution, for the Benefit of the Working Classes; with Tables and Examples of Contributions and Allowances, and an Abstract of the Acts relating to Friendly Societies and Saving Banks. By James Cleghorn, Accountant in Edinburgh." Edinburgh. 1824. Pamph. 43 pp.

ART. II. *Transactions of the Horticultural Society of London.*
Vol. VI. Part III. London, April, 1826.

WE have before noticed (*Gard. Mag.* vol. i. p. 312.) that twelve of the eighteen papers which this *part* contains, are by officers or servants of the Society, and that the three plates exhibit two new chrysanthemums and Wilmot's superb strawberry.

22. *On the Culture of Strawberries.* By Thomas Andrew Knight, Esq. F.R.S. &c. President. Read May 17. 1826.

The object of this communication seems to be to state, as the result of experience, that strawberry plants, after they have borne one crop, if taken up with balls and transplanted, will succeed as well as runners which have never borne. A good deal more trouble is attendant on this mode, but in small gardens, and for forcing, it may often be advisable to adopt it. Summer-planting of strawberries Mr. Knight considers as always, in some degree, objectionable; "because the plants can never have time enough to extend their roots to a sufficient depth beneath the soil, to save themselves from being injured by drought in the following spring." Where

summer-planting is adopted, he prefers runners of the preceding year, or plants which have borne a crop of fruit.

23. *On the Cultivation of the Amaryllis Sarniensis, or Guernsey Lily.* By Thomas Andrew Knight, Esq. F.R.S. &c. Read December 20. 1825.

In preceding volumes of the Horticultural Society's Transactions, there are one or two papers by Mr. Knight on the Guernsey Lily; and he "should think the matter of the present communication scarcely worth sending to the Horticultural Society, if" he "were not perfectly confident that the same mode of culture is applicable to bulbous roots of every kind which do not flower freely."

"The gardener possesses many means of making trees produce blossoms; by ringing, by ligatures, and by depressing their branches; and the increasing thickness of the bark of these necessarily obstructs the course of the descending fluid, and thus tends to render them productive of blossoms. But none of these mechanical means can be made to operate upon the habits of bulbous-rooted plants."

Mr. K. inferred, that in the culture of these, he should best succeed by adopting such measures as would first occasion the generation of much true sap, and subsequently promote such chemical changes in that, as would cause it to generate blossoms; and under these impressions, he made, amongst others, the following experiments, the result of which, in every respect, answered his expectations and wishes.

"A bulb of the Guernsey lily, which had flowered in the autumn of 1822, was placed in a stove as soon as its blossoms had withered, in a high temperature and damp atmosphere. It was planted in very rich compost, and was abundantly supplied with water, which held manure in solution. Thus circumstanced, the bulb, which was placed in the front of a curvilinear-roofed stove, excited much luxuriant foliage, which continued in a perfectly healthy state till spring. Water was then given in smaller and gradually reduced quantities till the month of May, when the pot in which it grew was removed into the open air. In the beginning of August the plant flowered strongly, and produced several off-sets. These, with the exception of one, were removed; and the plant, being treated precisely as in the preceding season, flowered again in August, 1824. In the autumn of that year it was again transferred to the stove, and subjected to the same treatment; and in the latter end of the summer (1825.), both bulbs flowered in the same pot with more than ordinary strength, the one flower-stem supporting eighteen, and the other nineteen large blossoms."

"In the foregoing experiments, I conceive myself to have succeeded in occasioning the same bulbs to afford blossoms in three successive seasons; by having first caused the production of a large quantity of true sap, and subsequently, by the gradual abstraction of moisture, having caused that sap to have become inspissated, and in consequence adapted to the production of blossom buds. Some gardeners entertain an opinion that bulbs may be excited to produce blossom buds by being kept very dry, after their

leaves have withered; but I believe this opinion to be wholly unfounded, and that the blossoms are always generated whilst the living foliage remains attached to the bulb."

Mr. Knight has made nearly similar experiments upon some fibrous-rooted plants, without the aid of artificial heat, with similar results, an account of which he reserves for future communication.

24. *Report upon the New or Rare Plants which have flowered in the Garden of the Horticultural Society at Chiswick, from March, 1824. to March, 1825.* By Mr. John Lindley, F.L.S. &c. Assistant-Secretary for the Garden. Read January 3. 1826.

This report may be considered a continuation of that made in 1824. (*Gard. Mag.* vol. i. p. 302.) All the plants included in it being described in our *Encyclopædia of Plants and Hortus Britannicus*, it would be a waste of room to do more than enumerate their names, with the exception of a few, which may be considered ornamental, or more than commonly curious, and to these names we shall add a few remarks.

TENDER PLANTS.

Trees or Shrubs. — 1. *Diospyrus vaccinioides*. Lindley. 2. *Ardisia paniculata*. Lind. 3. *Callicarpa rubella*. Lind. 4. *Callicarpa longifolia*. Lamarck. 5. *Quisqualis Indica*. Linn. Bot. Reg. 492, and Bot. Mag. 2033. (fig. 51.) "Trained to the wires of an iron curvilinear stove, so that its stem and leaves were as near as possible to the light, this plant flowered in unceasing beauty and profusion through the whole summer. From the end of March to the middle of October the house was perfumed with its delicious fragrance, and enlivened by the varying hues of its bunches of changeable orange and ruby-coloured flowers. The plant is easily propagated and cultivated, but requires the constant heat of a good stove, and a free exposure to light."

6. *Nauclea adina*. Smith. 7. *Cassinia leptophylla*. R. Brown. 8. *Grewia affinis*. 9. *Cleodendron lividum*. Lind. Bot. Reg. 945. A hardy green-lobed plant, of a livid appearance and little beauty. The stamens are, after the bursting of the anthers, rigidly curled back to each side of the corolla; offering a striking example of that kind of motility which M. DUTROCHET, in his *Recherches sur la Structure des Animaux et des Végétaux, et sur leur Motilité*, calls fixed incurvation.

10. *Prockia crucis*. Linn. 11. *Diplolepis ovata*. 12. *Murraya paniculata*. De Candolle. Hooker's Exotic Flora, 134. From Sumatra, in 1823. A naked arborescent stove shrub, six feet high, with pinnated leaves. The blossoms are white, and have a delicious fragrance, resembling that of the orange; and all the parts of the plant, on being bruised, emit a pleasing resinous smell.

13. *Blackwellia fagifolia*. From China, in 1824. A plant with downy branches, and ovate, serrated, bright-green alternate leaves, with linear, subulate, pale-green deciduous stipulæ. One of them flowered within a few weeks after its arrival; its blossoms grew in numerous axillary pendulous simple racemes, about the length of the leaves, and were of a pale yellowish white colour, emitting a fragrant odour. When in blossom this plant is an object of much interest, not only on account of its pendulous racemes of white flowers, which burst forth from the axillæ of every leaf, and fill the air with their perfume, but also for the sake of its beautiful starry floral envelope, which, with its delicate fringe of shining white hairs, exhibits one of the most elegantly symmetrical combinations in nature. It is nearly a hardy plant, flowering in May.

14. *Eurya Chinensis*. *Abel*. 15. *Mimosa polydactyla*. *Willdenow*. A curious species of sensitive plant, which may be raised with facility from seeds, which it produces in abundance; but it has not been propagated in any other manner. Like all sensitive plants, it requires, in order to acquire its highest degree of irritability, to be cultivated under the influence of a strong light, in a highly heated atmosphere, charged almost to saturation with humidity.

Herbaceous Plants.—16. *Calceolaria corymbosa*. *Ruiz and Pavon*. Bot. Reg. 723. (fig. 52.) A beautiful plant, scarcely more than biennial, usually perishing after having perfected its seeds. It requires, like most of the herbaceous plants from Chile, a cool temperature, and humid atmosphere during both summer and winter. It is managed most successfully by being placed in a cold airy frame, which may be protected by mats from severe frosts during the winter. In the months of April, May, and June, it produces its brilliant yellow corymbs of flowers in abundance; and these are, under favourable circumstances, succeeded by seeds, from which, if sown immediately after ripening, fine young plants may be obtained for flowering the following summer. A native of shady places near Concepcion, where it is called by the country people *Argemila*.

17. *Costus Pisonis*. 18. *Leonotis intermedia*. *Lind*. 19. *Mentha blanda*. *Wallich*. 20. *Phalangium Nepalese*. 21. *Gloriosa virescens*. *Lind*. 22. *Athropodium minus*. *B. Brown*.

Orchideous Plants.—23. *Catasetum Claveringi*. *Lind*. This noble species of *Catasetum* was brought from Bahia de S. Salvador in 1823. by Mr. George Don. It grows on the stems of living trees, and consists chiefly of a cluster of oblong bulbs, covered with the remains of the dry sheaths of the leaves of former years. The leaves are lanceolate. The flowers are very large, somewhat globular, quite free from pubescence, and having a powerful but pleasant smell of honey; on the outside they are dingy green, in the inside they are banded with irregular spots of a rich purple, like the flowers of some kinds of *stapelia*. The labellum is very fleshy and solid, and overshadows the inside of the flower like an helmet; in the inside it is bright yellow, on the outside pale green. The column is very large, beautifully spotted with purple, and has two long cirrhi in front, which being longer than the column, lie coiled up in the bottom of the labellum. A robust stove plant, flowering in September. It has been named after Captain Douglas Charles Clavering, F.R.S., &c. the commander of H.M.S. *Pheasant* in the voyage during which the plant was collected.

24. *Polystachya puberula*. Lind. 25. *Vanda multiflora*. Lind. 26. *Camardium ochroleucum*. Lind. 27. *Cattleya Forbesii*. Lind. An elegant and interesting addition to the genus *Cattleya*; from the former species of which it is distinguishable by the yellow colour of its flower.

28. *Aeranthus grandiflora*. Lind. 29. *Ionopsis utricularioides*. Lind. *Bulbous Plants*.—30. *Conanthera campanulata*. 31. *Zephyranthes rosea*. Lind. 32. *Crinum revolutum*. 33. *Amaryllis Forbesii*. β . *purpurea*. 34. *Chrysophiala pauciflora*. Lind.

HARDY PLANTS.

Trees or Shrubs.—35. *Rosa Indica* var. *ochroleuca*. This is one of the finest varieties of China roses known in the gardens; and so entirely different from any other, that it may be considered an important addition to our collections. It appears to be hardy, but thrives in a conservatory, where it expands its flowers better than in the open air.

36. *Rosa gemella*. Willdenow. A low bush, closely covered with dull-green, scarcely shining leaves; the flowers bright red, surrounded by longer leaves. A little known and long lost plant, which may now be considered as restored to our gardeners.

37. *Menziesia polifolia*. Swartz. The following distinct varieties of this beautiful little shrub have all flowered except one. They deserve the particular attention of such of our readers as contemplate forming a hardy heathery, as recommended in the *Gardener's Magazine*, (Vol. I. p. 366.) *M. p. vera*, received of Mr. Malcolm, Kensington; *P. atropurpurea*, of Mr. William Falla, of Gateshead nursery, Newcastle-upon-Tyne; *P. latifolia*, and *P. longifolia*, from Messrs. Loddiges; and *P. nana*, first observed many years ago in Mr. Malcolm's nursery at Kensington in a bed of seedlings of *M. polifolia*. It is probably a distinct species. "But without seeing its flowers, it is better to allow it to remain provisionally with the species to which it has hitherto been referred."

Annual Plants.—38. *Castilleja septentrionalis*. Lind. Bot. Reg. 923. This exceedingly rare plant, sprang up among the earth of some turves from Labrador.

39. *Talinum ciliatum*. *Flora Peruviana*, Hooker's Exotic Flora, 82. (fig. 53.) A beautiful hardy annual plant, well adapted to covering rock work which it enlivens with the brilliant lustre of its purple blossoms, reposing upon the pure glossy green of the leaves. It is a dwarf, rather succulent plant, with long, narrow, bluish-green leaves beginning to flower in June, and remaining till the first frosts of autumn. The seeds should be sown on a hot-bed, from whence the plants may be afterwards removed to the place they are to occupy during the summer." The sp. name refers to certain hairs on the leaves.

40. *Vicia atropurpurea*. Desfontaines. Bot. Reg. 871. A beautiful annual plant, native of Barbary. The stem is weak and procumbent, the leaves are pinnated and hairy, and the flowers are of a rich and beautiful purple, appearing in long one-sided racemes, opening in the middle of July, and remaining in beauty for many weeks. The plants were raised from seeds sent to the Society by M. Otto, from the Royal Botanic Garden at Berlin, as well as by M. Fischer, Director of the Botanic Garden at Göttingen.

Bulbous Plants. — 41. *Amaryllis longifolia*, *f. albo*. 42. *Tritonia lineata*. *Ker.*

Herbaceous Plants. — 43. *Oenothera speciosa*. *Nuttall. Exotic Flora*. 80. (*fig. 54.*) A handsome perennial plant, lately discovered in the Arkansas country, in North America. As a border plant it is recommended by the beauty and long succession of its flowers; but its creeping roots, which over-run the neighbourhood of the spot where it is planted, render it objectionable. Its stem is downy, about two feet high, covered with glaucous, cut, lyrate leaves. The flowers are large, white, very handsome, becoming pink upon closing. It is propagated with facility by division of the roots.

44. *Oenothera triloba*. *Nuttall. Bot. Mag.* 2566. Distinguished from *Oenothera acaulis* by the smoothness of its leaves, its yellow flowers, form of capsule, and other obvious marks.

45. *Pogonia pendula*. *Lind.* This most curious little plant blossomed in great perfection in a shady American border on the 31st of July. The whole plant is not more than four inches in height, and has no other than about three little scale-like, three-nerved leaves, which appear upon the simple red stem. The flowers are terminal, white, tinged with red, large for the size of the plant, appearing about three together, and opening in succession. It is probable that this plant is lost to the garden, as it has not made its appearance this year (1825.), but if it should not be lost, it can scarcely be anticipated that any means will be discovered of increasing it.

46. *Mimulus parviflorus*. *Lind. Bot. Reg.* 874. A pretty prostrate perennial plant, with trailing hairy stems, and bright yellow flowers, spotted with crimson in the throat. It is covered with flowers through nearly the whole year, even during the winter months, if protected by a hand-glass. It is readily increased by seeds, which it produces in abundance, or by divisions of the rooting stems.

47. *Arum crinitum*. *Lin.* 48. *Pedicularis Canadensis*. *Lin.* *Bot. Mag.* 2806. A pretty plant, seldom seen in collections, on account of the difficulty of cultivating it.

49. *Dracocephalum nutans*. *Lin.* *Bot. Reg.* 841. (*fig. 55.*) An old plant, seldom seen in gardens. It is a beautiful perennial, expanding its blossoms in the last days of April, and continuing in beauty till the end of August. This plant is worth asking for.

50. *Nolana paradoxa*. *Lind. Bot. Reg.* 865. With much of the habit of the common *Nolana prostrata*, this is a far more beautiful plant. It may be either treated as a tender annual, or as a frame perennial.

51. *Sambucus Chinensis*. A rank, weed-like, herbaceous plant, in a favourable situation, forming a bush five or six feet high, with the aspect of *Sambucus Edulis*.

52. *Leonurus lacerus*. Of the above, 52 species, 30 have been introduced by the Horticultural Society; the others are plants which have been introduced by others, or in the country before, but which, from various causes, have become entitled to the appellation of rare. By a list of the plants which have been introduced by Robert Barclay, Esq.



and flowered at his seat, Bury Hill, Surrey, which has lately been sent us by Mr. Cameron, the gardener at Bury-Hill, we find that some of the finest of them, such as *Quisqualis Indica*, *Oenothera speciosa*, &c. were previously flowered there.

25. *Observations on a Disease to which Grapes are liable, and on the Means of preventing it.* By Mr. Daniel Judd, F.H.S. Read November 16. 1824.

After the berries are formed upon a bunch of grapes, they advance pretty rapidly in size until the period when the seeds are forming, when for a time their increase seems suspended. Immediately after this, it sometimes happens that the foot-stalks suddenly turn brown and shrink, and the berries ceasing to increase in size, shrivel, acquire an unpleasant taste, and ultimately fall off. By many gardeners this disease is attributed to the badness of the border on which the vines are planted, but it will be found that it arises from an over-moist atmosphere.

“ At the formation of the seeds, the skins of the berries, as well as of the foot stalks, are remarkably tender, and consequently easily affected by the surrounding atmosphere. If fresh air is not given early in the morning, before the internal air becomes heated, a vapour rises in the house, which is perceptible by its condensing on the glass and walls, and on any iron-work that may be in the house. If under these circumstances the bunches of fruit are carefully examined, the moisture will be found plentifully collected on the berries, and more particularly on the foot-stalks. This is the destructive material, for as the temperature of the house is increased, an effect equal to scalding is produced on the cuticle of the berries, and hence the diseased appearance which they assume, and should the sun break suddenly out, the destruction becomes complete.

“ To prevent this, one or two of the top sashes should be drawn down a little, early in the morning; and if the day opens out bright and sunny, the rest of them may also be drawn down. Unless the day be very warm, the front lights should not be opened; for a current of air is produced by this, which in cold weather is very liable to produce a spotting upon the berries, a disease scarcely less injurious than the scalding. This, however, does not prevent the berries from colouring; but if the spots become large, the berries take an irregular shape, and cease to improve in size. The first appearance of this disorder is a number of very minute brown spots, which penetrate quite through the skin, sometimes affecting some of the berries only, sometimes the whole bunch.”

26. *Description of the different Varieties of Parsneps, cultivated in the Garden of the Horticultural Society of London.* By Mr. Andrew Mathews, A.L.S. Read December 6. 1825.

These are; 1. the common; 2. the Guernsey, a variety of the common; 3. the hollow-crowned parsnep, with shorter and fewer leaves than the common, and oblong roots more swollen at the top; 4. the turnip rooted, with few leaves, early and the best flavoured. The merits of the three first are nearly equal.

27. *On the Cultivation of Ginger in a glazed Pit.* By Mr. Christie Duff, Gardener to the Earl of Grosvenor, at Eaton Hall, Cheshire. Read January 17. 1826.

“ Fresh roots of ginger are much in request in many families for preserving, but the usual method of growing them in pots or boxes in a stove affords but a scanty supply.”

In March take some old roots and divide them, leaving one bud to each piece; put these in No. 60. pots separately, and place them on a hot-bed. By the middle of May they will have shot from 12 to 18 inches, turn them out into light rich soil on a gentle heat in a pit, give them abundance of water and very little air. The roots will be fit for taking up in September. “ After September, the plants, if left in the ground, begin to decline, and the roots at that time, and under these circumstances, become stringy.”

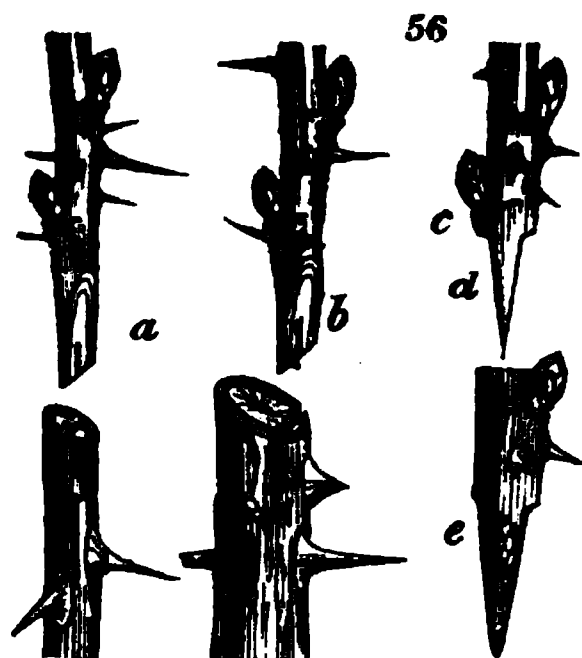
28. *Observations upon the natural Laws which govern the Production of Double Flowers, arising out of a remarkable Case of Preternatural Formation in the Flowers of an Amaryllis.* By Mr. John Lindley, F.L.S. &c. &c. Assistant-Secretary for the Garden. Read December 6, 1825.

In November, 1825, some bulbs of the double Barbadoes lily (*Amaryllis crocata*), flowered in the stove of the Chiswick Garden, and Mr. Lindley has prepared this paper, not for the purpose of bringing into notice this particular variety, which has not now been introduced for the first time, but for the sake of recording one of the most singular instances of preternatural formation in the vegetable kingdom, and which appears to him to confirm an opinion he has for some time entertained respecting the laws which regulate the production of double flowers. This opinion is, that the transformation of the parts of plants follows the same laws as their development; and that when flowers become double, instead of the stamens becoming corollas, and the corollas calyxes, as is commonly believed by gardeners and botanists, the calyxes become corollas, and the corollas stamens, and the stamens (sometimes at least) ovaria. The paper may be considered as an ingenious speculation, according with general analogy, and characteristic of the author's philosophic turn of mind, in the deduction of general views from particular facts.

29. *Notes on grafting, budding, and cultivating Garden Roses.* By Jean Baptiste Van Mons, M.D. Foreign Member of the Horticultural Society of London. Read May 4. 1824.

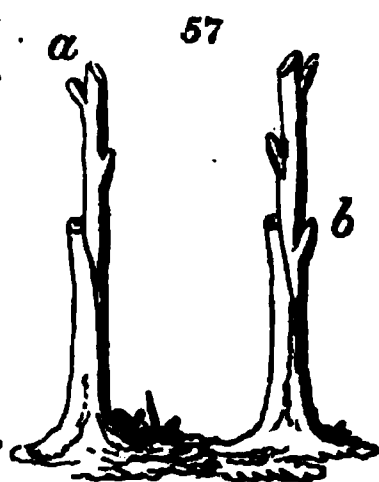
Roses may be propagated by grafting as successfully as by budding. In Flanders cleftgrafting is adopted, and care taken that the scion is of the same diameter as the stock (*fig. 56, a*), or the cleft in the stock made sufficiently near one side of the

cross section, that the bark of the scion may fit the stock on both sides (*b*). This mode is adopted for grafting one sort of garden rose upon another. In grafting upon the dog-rose, the same practice is followed, with this addition, that a shoulder is very often made to the scion (*c*), so as that it may rest with greater firmness upon the stock; such stocks being often employed as standards, and therefore more exposed to wind.



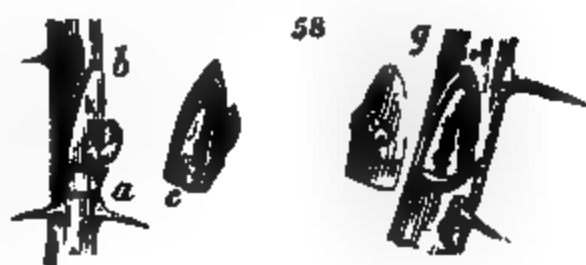
We may add here, as information communicated to us by Mr. Calvert of Rouen, that it is the general practice to form the wedge in a part of the scion where there are no buds (*d*), but that he adopts a contrary practice, and finds that a bud on the wedge part of the scion (*e*) greatly contributes to the success of the graft. By taking care to have a bud on the lower part of the scion, Mr. Calvert has even been successful in grafting roses by the whip or splice method (*fig. 57*), which, without a bud on the lower part of the scion (*a*) very often fails, but with a bud (*b*) fails very seldom.

Dr. Van Mons goes on to say, that the grafts are tied with fine bass, made waterproof, by pressing it first through a solution of white soap, and next through one of alum; a neutral compound being thereby formed, insoluble in water. The ligature is covered with a coat of marly clay, mixed with old slaked lime, and moistened with white of egg beat up with four or five parts of water. This material is applied with a brush. On stocks of dog-rose, a white mastic made of Burgundy pitch, white wax, and boiled turpentine, with or without a little size, is used. Black mastic, by imbibing the heat more powerfully than white, soon melts and runs off. — In Britain, where the summers are not quite so hot as in Flanders, common grafting clay may be used.



"The rose may be budded in spring, if the buds are extracted with a small portion of wood adhering to them. For this purpose, scions are cut before winter and stuck into the ground, till the moment when in spring the bark of the stock will run. To prepare the bud, we make, firstly, a

transverse cut into the wood a little below an eye (a), which incision is met by a longer cut downwards, commencing at a short distance above the eye (b), care being taken that a portion of wood is removed with the bark. (c) This bud is inserted into the bark of the stock, which is cut like an inverted T (d), the horizontal edges of this cut in the stock and of the bud must be brought into the most perfect contact with each other (e), and then bound with waterproof bass, without, however, applying grafting-clay. (f) Eight days after



the insertion of the bud, the stock is pruned down to the branch, which is immediately above the opposite side, and this branch is stopped by being cut down to two or three eyes; all the side-wood is destroyed, and when the bud has pushed its fifth leaf, we compel it to branch by pinching its extremity; it will then flower in September of the same year."

"You may also bud the rose in the spring, without waiting till the bark separates, by placing the bud, with some wood on it, in a niche made in the stock, similar to what would be formed by taking an eye for budding from it in the manner above described, and into which it is fitted exactly with a slight pressure. It is recommended to make the cut for the niche where there is already a bud on the stock; when placed, the bud is then bound with bass and covered with mastic."

In budding in June, Dr. Van Mons first deprives the young shoots, from which he proposes to take buds, of their leaves, and fifteen days afterwards he finds the buds sufficiently swelled to allow of their being taken off and inserted. The shoots from such buds frequently flower the same year, but this may be rendered certain by pruning off all the branches of the stock. In budding in August and September, the buds succeed best when inserted in the old wood, well pruning all the branches of the stock, if it is intended that the buds shall push the same season.

"The scion of a rose-tree is seldom too dry to take, when the bud is inserted with a thin bit of wood behind its eye." Dr. V. M. has budded successfully from scions that had remained in a drawer for ten days. They may be sent any where, packed in long grass, and surrounded with straw disposed longitudinally."

Dr. V. M. prefers grafting or budding not more than six inches above ground, in order that the bush may be better exposed to the eye, because the union is more certain, and because the plant keeps the earth about it moist by its own shadow. In pruning roses of every kind, the shoots are annually shortened to nine inches in length, which is found

highly productive of wood and flowers. The operation is performed about the end of January; and all the wood of four years' growth is entirely cut out. This deserves the particular attention of the British gardener, and equally so the statement that "at the end of eight years the plants are taken up and renewed."

To cause roses to flower in the autumn, "we prune them back in the spring, as soon as we can discover their flower-buds;" that is, the flower-buds are cut off, and the effort of the plant to produce others is not attended with success till late in the season. Stocks of the dog-rose are obtained from the woods and hedges; sometimes these stocks produce suckers the year after budding, and if these are laid down their whole length in spring, and covered with an inch of earth, leaving only the extreme end of the sucker above ground, as is done in laying plum and other stocks for fruit-trees, each eye will form a cluster of roots, and a very fine shoot, which may be taken off the ensuing winter, and budded the following spring, though not so successfully as after two or three years' growth. But as it is well known, both on the Continent and in Britain, that grafting or budding roses never succeeds any thing like so well on young wood as on wood of two or three years' growth, and as stocks of that growth are easily obtained from the woods and hedges of both countries, it can seldom be worth while to propagate stocks in gardens. In Paris, however, this is done to a small extent, and the sort propagated is the single cinnamon rose, which produces vigorous purple shoots without thorns.

30. *Account of several New Chinese and Indian Chrysanthemums, with additional Observations on the Species and Varieties, and on the Management of the Plants in Gardens.* By Joseph Sabine, Esq. F.R.S. &c. Secretary. Read January 17. 1826.

Long and minute descriptions of twenty-one sorts are given, most of which have been introduced by the Society, but some by other individuals. The use of such descriptions is to enable any person who reads them, to determine the sorts already in possession of the Society, with a view to adding to their number; but though these descriptions are probably as well drawn up as such details can be (for it is in this kind of minute and accurate detail that Mr. Sabine's *forte* lies), we doubt their fitness to answer the use intended, without the aid of coloured plates. The same remark will apply to Mr. Sweet's descriptions of hybrid geraniums, from which

we will venture to say, no man, however acute his botanical acumen, could make out any one sort without the aid of the coloured plates, and most beautiful plates they are, which accompany them. We do not mean it to be inferred, that Mr. Sabine's descriptions should not have been given, but only to excuse ourselves from the useless labour of making short that which the author has laboured to make long.

What Mr. Sabine intends by Indian chrysanthemums are two sorts, the parent of which he considers specifically distinct from the parent of the Chinese chrysanthemums of the gardens. In two papers in the Linnæan Transactions (Vol. xiii. p. 561. and xiv. p. 142.), Mr. S. endeavours to establish two species as the types or parents of all the garden varieties. *C. sinense* as the type of the greater number of sorts now in culture, and *C. indicum* as the type of a double yellow, double white, and single yellow chrysanthemum, described in the present paper, and not yet in very common culture. It is not easy for an ordinary observer to discover the varieties of *C. sinense* from *C. indicum*; but the former, with only one or two exceptions, are said to "smell like chamomile," while the latter have an odour, "slightly pungent, and somewhat aromatic." Two of the varieties described, the pale pink and cluster pink, are recorded as the result of sporting, and the following directions are given for the establishment of permanent varieties from this source.

"On the appearance of a sporting branch, part of it should be taken off for propagation in the season of its appearance, because it is not certain, though probable, that a sporting shoot will be produced by the old plant in the next year, and as the branches are only annual, the increase of the sport by cuttings must not be deferred to the spring. The sport never deviates from the shape and character of the leaves, nor from the habit of the parent plant; the flowers alone are altered, and this is done either by change of colour, or by conversion of quilled into expanded, or of expanded into quilled florets.

"The sporting plants already noticed, are, 1st. The purple, which produced the changeable white in England. 2d. The expanded light purple, and the quilled light purple, which having been imported from China separately, it cannot be ascertained here which was the original. 3d. The curled lilac, from which the curled pink has lately been obtained in our gardens; and 4. The buff or orange, which sported in China to the rose or pink: these two kinds were separately imported.

"To some persons, the having plants producing sporting branches may be a matter of amusement; for this purpose sporting plants should be procured, and as such they are best kept against a south wall; but it must be recollected, that the reproduction of sporting branches by any particular plant is not to be depended on.

"Those who wish to exhibit different flowers in the same pot, may obtain their object in an easier manner than by procuring the sporting plants. Cuttings, or small plants, of the different kinds derived from the

same origin, may be planted in the same pot, and when they produce the blossoms, as their leaves are exactly similar, they will have the appearance of the same plant yielding differently coloured flowers; the pots used for the purpose should be large, to give full support to the increased quantity of roots.

“From an original drawing in the possession of the Horticultural Society, it appears as if the Chinese obtained a variety of coloured blossoms together by means of grafting.”

Most of the sorts of Chrysanthemum “succeed admirably,” and continue in beauty for a long period, trained against a south wall the late: flowering sorts grow more vigorously and flower better in this situation, than in pots under glass. Whether against a wall or in pots, reducing the number of flower-buds, as recommended by Mr. Joseph Wells, (*Encyc. of Gard.* § 6474.) enlarges the size of the flowers. In training the shoots to a wall, contrive to have the branches of different lengths, so that the flowers which only grow at their ends may not all appear at the extremities of the plant.

The best sorts for an open border are the purple, changeable white, buff, and rose.

“There are now nearly fifty-two varieties of the chrysanthemum in this country, most of which have been introduced by the Society within the last few years.”

A writer (Mr. Sabine, judging from his style and other circumstances,) in Mr. Brande’s Journal (Jan. 1827.) observes, “the brilliant colours of these plants, and the facility with which they are cultivated, will soon make them so common, that our cottagers’ gardens will become as gay in the month of November and December, as the Chinese rose has made them during all the spring and summer. Such objects as these will add universally to the enjoyments of the country, and may, therefore, be justly termed of national importance; they are those to which the power and attention of this and all similar public bodies cannot be too forcibly directed.”

We readily allow the superior merit of introducing plants which may be, and are worthy of universal culture; but we are also of opinion, that the attention of the Horticultural Society has been, and is much too forcibly directed to the introduction of such plants; because they have introduced them themselves, instead of encouraging their introduction by others. According to the views we have of the duties of a patriotic society, and we believe these views are in accordance with the soundest principles of political economy, a society ought to attempt nothing that can be very well done by individuals. It ought to encourage the efforts of individuals by suitable rewards where encouragement is wanting, but it ought never either to slacken individual industry by monopoly, or divert it into a channel which

it would not find by its own natural reward. Chrysanthemums were first introduced by individuals, and the public obtained them through the nurserymen; and if the Society had thought they were not introduced fast enough, their legitimate business was to have pointed out the sources for obtaining more sorts, and offered a premium for their attainment. By interfering in this and other respects with the regular commerce of gardening, the efforts of nurserymen and other commercial gardeners are paralysed; a false importance is given to petty objects and details, and the funds and energies of the Society are wasted on these, instead of being directed to great and leading objects, such as determining the nomenclature of the hardy fruits and culinary vegetables of the temperate zones of both hemispheres, and forming a complete library; which are two of the only three things which the Society have the power of doing better than any individual.

We shall not, however, take leave of the subject of chrysanthemums, without paying a tribute to the indefatigable exertions of Mr. Sabine in procuring their introduction, no less than in describing them; and we will suggest to him, as a medium of making all the varieties more generally known, that of having figures of them printed in colours, which can be done in a very superior manner and at no great expense. As a proof of this, we refer to the carnation printed in colours in Mr. Savage's beautiful work on ornamental printing, executed by Whiting and Branston. On this plan, coloured figures of 50 sorts, in 8vo., might be sold for 15s. or 20s. We should like to see strawberries, gooseberries, apples, peaches, pæonies, carnations, auriculas, tulips, and other fruits and flowers, published in monographs on the same economical plan for general purchasers; not, however, to the exclusion of more splendid publications of the same things to those who could afford to purchase them.

31. *Account of the Cultivation of Chinese Chrysanthemums in the Garden of the Horticultural Society.* By Mr. Donald Munro, F.L.S. Gardener to the Society. Read January 17. 1826.

The present improved mode of cultivating chrysanthemums, is stated to be derived from the information of Mr. Wells, before alluded to. (p. 196.) In the beginning of April, cuttings are taken from the top shoots of last year's plants; they are planted in the pots called small sixties, in mould made up of one half equal portions of loam and bog-

mould, (for which leaf-mould or any light vegetable soil may be substituted,) and one half sand. The cuttings are taken off about three inches long, and smoothly cut across at a joint; one is put in each pot, and the pots are set in a frame on a gentle bottom heat. In three weeks or a month, they are well rooted, and then hardened in a cold frame till the beginning of June, when they are shifted into forty-eight sized pots, and placed in an open airy situation. Here they are watered with liquid manure, in which soap-suds have been mixed. About this time, the tops of the plants are nipped off to make them bushy, but no more side-shoots are allowed to remain for flowering than the plants are likely to be able to support. In August, shift into thirty-two sized pots, using strong loam, with about one third of rotten dung, and tie the plants to sticks. The pots are never plunged, but frequently moved to prevent the roots growing through their bottoms. When the buds are formed, they are taken under glass. "In setting the plants in a glass-house for show," says Mr. Munro, "it is necessary to mix the varieties as much as possible." Why necessary? We presume the writer to mean that by mixing them a greater variety or a better effect is produced! Mr. Munro and the Garden Committee ought to know better. (See p. 105.)

The old plants, from which the cuttings are taken, if shaken out of the old mould, freed from their suckers, and repotted in forty-eight sized pots, afterwards in thirty-twos, and in August in sixteens, will form large, showy plants.

We may add to Mr. Munro's very clear and judicious directions, that small suckers may in many, if not most, cases, be substituted for the cuttings; thus saving some trouble, and a little risk, especially to those who have little time, or no spare hot-bed frame.

32. Account of a Method of forcing Figs, practised in the Garden of the Earl of Harewood, F.H.S. at Harewood House, in Yorkshire. By Joseph Sabine, Esq. F.H.S. &c. Secretary. Read February 7. 1826.

No fruit-tree is so docile as the fig; it bears as well or better in a pot than in the free soil; cuttings come into bearing the same season; a first and second crop are obtained in the open air, and no tree forces better. Mr. Robert Chapman, the intelligent and skilful gardener at Harewood House, has cultivated the fig in pots under glass at that place successfully for the last thirty years. The pots are generally

from twenty to twenty-four inches wide at top, and fourteen inches deep. The trees are taken out of them annually in January, all the younger roots are cut off with a sharp knife; the ball is reduced according to circumstances, and the plants are repotted in rich sandy loam. A bed of dung or leaves is made on the floor of a house, which has vines against its back wall; in this the pots are plunged, and a little fire-heat is given, so as to keep the air from 65° to 70°. The usual routine culture is pursued; the fruit begins to ripen early in April, and a succession is kept up in the same house until October, after which the plants are plunged in the soil of the house and kept dry till January. The sorts used are the Genoa, the large brown Ischia, the small black Ischia, the Murry, and the black Genoa. The trees are of different ages from three to twenty years.

33. *On the Cultivation of an Early and a Late Variety of the Pear on the same Tree.* In a Letter to the Secretary. By Mr. Duncan Montgomery, C.M.H.S. Gardener to the Duke of Montrose, F.H.S. at Buchanan, Stirlingshire. Read January 17. 1826.

By grafting the alternate branches of late pear-trees with early sorts, and early trees with late sorts, there are two chances of success; the early sort being very early in blossom, if that fails in consequence of unfavourable weather, the late sort, flowering at another time, may succeed. Farther, the early sort ripens off before much effort is required from the tree to support the late sort; hence, each sort in its season is brought to greater maturity. This is an ingenious and reasonable practice, and so peculiarly adapted to Scotland, where the best sorts of pears are generally grown on walls, that we think with Mr. Montgomery, "it requires only to be named to be generally adopted" in that country, and in many parts of England.

34. *On the Transplantation of Plants with Spindle-shaped Roots.* By Thomas Andrew Knight, Esq. F.R.S. &c. President. Read February 7. 1826.

Carrots were sown in a pot, the soil of which was rich at bottom, and the rest sandy loam. The fibrous roots were, in consequence, chiefly made in the rich soil, which, by a contrivance similar in effect to placing the pot in a saucer of water, was kept more moist than the top. The object attained by this arrangement is a clean straight portion of root between

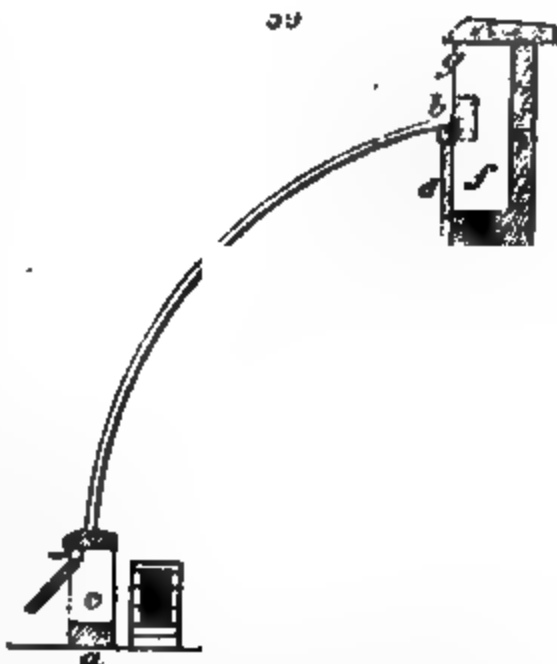
the leaves and fibres, and fibres in circumstances which admit of removal without rupturing them; hence, transplanting can be performed without any great check to the plant, and as a result of such plants sown in January in a stove, and planted out in the beginning of April, Mr. Knight had a crop of carrots "nearly a month earlier" than he could have had by the ordinary means of cultivation. We should like very much to see this experiment repeated by a practical gardener, and to see turnips tried in the same manner. Beet and Swedish turnip may be successfully transplanted, even when the points of the roots are broken or cut off. The check would be lessened by Mr. Knight's plan, and hence possibly the common turnip might be sown in pots and transplanted. Independently of an early crop, this would sometimes be of value for filling up blanks, both in gardens and fields.

35. First Report on the Experiments carried on in the Garden of the Horticultural Society of London; made up to the end of March, 1825. Read February 7. 1826.

The greater part of this paper consists of descriptions of hothouses and pits, erected in the garden of the Society, probably for the purpose of showing to the subscribers to the garden how the funds have been expended, but certainly possessing very little novelty or interest in other respects. A justly-merited tribute is paid "to Mr. William Atkinson, to whose advice and assistance in the construction of the buildings in the garden the Society is much indebted;" and this gentleman's mode of ventilating hot-houses is commented upon, not as "absolutely new, but because the method is not so much adopted as it deserves to be." We entirely concur in this opinion, and consider Mr. Atkinson as the very first hot-house architect. His principal improvements in regard to heating and ventilation, and his very superior manner of constructing flues, &c., will be found described in "*Tredgold on warming and ventilating Dwelling-houses, Conservatories, &c.*" a work which we have elsewhere (p. 118.) said ought to be in every garden-library; and we shall here give the description of the mode of ventilation alluded to in the report.

"In the first place, the roof is not provided with movable sashes, but they are, on the contrary, fixed: there is necessarily no upright glass in front of the house; but the roof rests there upon the solid wall (*fig. 59. a*), and at back upon the face of the back wall. (*b*) In the front wall are built a number of wooden frames, into which shutters, opening externally on hinges,

are accurately fitted. (c). In the back wall, within the house, and next the glass at top, are also fitted a corresponding number of wooden frames (d), furnished with a wooden slider, running up and down by means of pulleys with cords and weights, after the manner of a window-sash. (e) These sliders are interposed between a hollow in the wall (f), which communicates with the external air in front, above the glass roof of the house. (g) When it is wished that no air shall be admitted, the front shutters and the back sliders are closed, and in proportion as it is desired to ventilate the house, are they opened to a greater or less degree.



By these means a current of air is maintained from front to back; and as fast as the admitted air becomes heated, and rises in the house, it escapes through the ventilators at the top of the back wall. When it is expedient to admit fresh air, without loss of much heat, the front ventilators alone are opened. The ventilation of the houses being thus effected with facility and accuracy, renders the moving the lights for that purpose unnecessary; and, in consequence, all the sashes in the houses erected in the garden of the Society, excepting those of the peach-houses, are now fixed. By aid of these ventilators, the temperature of iron houses is capable of being lowered in the hottest days of summer to a degree even inferior to that of the external air. The advantage in obviating the wear of wood-work, and the breakage of glass is manifest."

Humidity in the houses. Some observations, taken with Mr. Daniel's hygrometer, have led to the conclusion, that .860 of that instrument, the temperature being from 80° to 87°, and the transmission of light such as takes place through a curvilinear roof of iron bars and crown glass, is the most suitable to tropical vegetation.

"It can also be stated, that unless such a degree of humidity is carefully maintained during the summer months in a hot-house constituted of iron, such a house will be found more rapidly prejudicial to the health of plants, than one constructed of wood, because its atmosphere, if left to itself, would become more dry, and the plants would exhibit all the symptoms consequent on aridity."

We have before observed (vol. i. p. 292.), that whatever be the description of house, when the temperature is high, say from 60° upwards, the gardener can never go wrong in regard to atmospheric moisture, if he keep the floor well watered. This being done, the heated air will always take up the natural proportion of vapour. Mr. Daniel's hygrometer is perhaps the most accurate instrument of the kind, but unfortunately for its coming into general use, before any thing

can be ascertained from it, it is necessary to perform an experiment, which, with the most practised hands, occupies several minutes, and in the course of the year must consume a good deal of ether. We repeat, therefore, that by keeping a well watered floor, the affair of moisture may be left to nature.

Atkinson's Melon-pits. (fig. 60.) "These have been found far superior to any other yet constructed. The principle is that of a brick pit heated



by dung, and consists of four external walls, of which the back and sides are four inches thick, and built in the pigeon-hole manner. (a) The front is a hollow fourteen inch wall, open at top within side (b), and externally formed with thin bricks set on edge in cement. (c) Against these walls the dung is applied as usual, by which means dry heated air is communicated to the pit from the front, and the damp warmth from the steam of the dung penetrates the pit at the back and sides. This contrivance is simple, and free from the objectionable points in M'Phails's pits, especially in being much less expensive, and more roomy."

We certainly think this the very best plan for pits to be heated by dung that has yet been invented. For ordinary purposes it may be made from five to seven feet wide, and for fruiting pines from six to twelve feet wide, with plugs of the size of brick-bats in the outer front wall (c), for the purpose of being opened occasionally to admit steam from the dung. If at any time the air in the pit was found not to be sufficiently moist, the defect might be supplied by pouring water into the vacuity between the two front walls (b), from whence it would be evaporated by the heated air, according as it was more or less dry. The pits in the garden at Chiswick are, for the most part, sunk in the ground, and the dung linings covered with sloping wooden lids, which might or might not be hinged (d); these coverings retain heat, throw off the rain, and have a neat appearance. The vacuity in the inside might also have a hinged covering (e),

to be shut down when the tan or earth was being removed, &c. We may add, that it is an improvement to bevel the walls which retain the dung linings (*f*), and it would be a farther improvement to build these walls hollow, in Silverlock's manner. (*g*) This practice of beveling walls of dung-pits, was originally brought forward by Mr. Scot (*Encyc. of Gard.* § 2655.), and has been successfully adopted in several gardens. Dung linings, during the process of fermentation, shrink from the sides, as well as sink from the top; the slope of the outer wall acts like a wedge in pressing the linings to the walls of the bed, and every gardener knows that much more heat is given out by dung in close contact with any body, than when from being in a loose state a portion of air intervenes. Where brick pits are built above ground, it might be worth while to bevel the walls somewhat inwards (*fig. 61. a*) for the same reason, and lids which might be hinged to the frames (*b*) would be valuable in the winter season by excluding rain and snow, and in spring and summer by including moisture.

36. *On the Cultivation of the Passiflora Quadrangularis.* By Mr. William Mitcheson, Gardener to John Milford, Esq. F.H.S. Read October 18. 1825.

Mr. M. keeps a plant in a box eighteen inches square, fixed on a level with the curb in one corner of his tan-pit. The sides of the box are perforated, to admit the roots to run among the tan, and the shoots are trained like vines under the rafters. In autumn the shoots are pruned back to within two or three eyes of the old wood; and in March following, or just before the plant begins to break, the plant is taken out of the box, the root and ball reduced, and repotted in fresh compost. Abundance of water in the flowering season enables the plant to set its fruit without artificial impregnation. A strong plant will produce forty fruits in a season, in regular succession, from the end of June to Christmas. Half that number will grow to a larger size.

37. *On a Method of growing Asparagus in single Rows, as practised by Mr. Walter Dickson, at Redbraes, near Edinburgh.* In a Letter to the Secretary. By Mr. Andrew Dickson, F.H.S. Read March 21. 1826.

The rows are three feet and a half apart, and the plants nine inches from each other; it is reasonable to suppose that the produce will be much stronger than that from plants crowded together in beds, and Mr. A. Dickson reckons that two rows, planted as described, will produce more than three rows planted in beds in the usual way. Where the soil is deep and dry, the row method seems well worthy of adoption.

38. *Notice of new or remarkable Varieties of Fruits, ripened in the Summer and Autumn of the Years 1823 and 1824, which were exhibited at Meetings of the Horticultural Society.*

Strawberry. Wilmot's Superb. (See vol. i. p. 230. and 278.)

Plum. N. W. R. Colborne, Esq., of West Harling, in Norfolk, sent two specimens of Coe's Golden Drop, both grown on the same branch, but the one yellow and the other violet. Grafts of the branch have been made in the Society's garden, with a view of ascertaining whether or no the sport will be permanent.

Apricot. Mr. A. Richardson, gardener to the Countess of Tankerville, at Walton-on-Thames, sent a seedling apricot, raised from a stone of the Moor Park, which ripens very well on a standard, and attains a large size. It has been named the Walton Moor Park apricot.

Peaches and Nectarines. Four varieties.

Pears. Two varieties, and *Pyrus sinensis*, Lind, the Sha Lee, or Sand Pear of China; oval shaped, with the flavour of an apple rather than of a pear, and of no particular excellence.

"But the leaves are almost evergreen, continuing on the tree nearly the whole winter; they are large, and shining dark green. The tree vegetates very early in the spring, when it is easily recognised by the brown colour of its young leaves and shoots."

39. *Report upon the Meteorological Observations made in the Garden of the Horticultural Society during the Year 1825.* Read February 7. 1826.

"A few remarks upon the state of the atmosphere during one of the driest summers which has been experienced in Great Britain for many years."

ART. III. Catalogue of Works on Gardening, Agriculture, Botany, Rural Architecture, &c. published since December last, with some Account of those considered the most interesting.

BRITISH.

Curtis's Botanical Magazine, or Flower Garden displayed; New Series.
 Edited by Dr. Hooker. In 8vo. No. I. 3s. 6d. coloured; 3s. plain.

No. I. for January contains .

2705. *Mutisia speciosa*, handsome pinnate-leaved mutisia; Syngen. Polyg. Super. and Compositæ; scandent, shrubby, from Brazil, 1826. — Stove.

2706. *Pyrethrum uliginosum*, S. P. S. and Comp.; large flowered marsh ox-eye; a hardy annual from Hungary, in 1825; five feet. — Flowers in October.

2707. *Aster acuminatus*, pointed-leaved Michaelmas daisy; S. P. S. and Comp.; a hardy perennial from Canada. — Flowers in October.

2708. *Solanum coriaceum*, coriaceous S.; Pentan. Monog. and Solanaceæ; a handsome bushy shrub from Mexico; one foot high; purplish blue flowers.

2709. *Liparis foliosa*, many leaved L.; Gynan. Monan. and Orchideæ; an epiphyte from the Mauritius, in 1826. — Flowers in October.

2710. *Gnaphalium modestum*, Squamose fld. Cape G.; Syng. Polyg. Super. and Compositæ; an under shrub from the Cape, in 1824. — Greenhouse.

2711. *Candollea cuneiformis*, cuneate C.; Polyadel. Polyan. and Dilleniaceæ; a shrub, eight or nine feet high, from St. George's Sound, in 1823.

2712. *Schelhammera undulata*, wave-leaved S.; Hexan. Monog. and Melanthaceæ; a stove plant from New South Wales, in 1825.

No. II. for February contains

2713. *Buddlea brasiliensis*, Brazilian B.; Tetran. Monog. and Vitices; a shrub from Brazil; red. — Flowers in November.

2714. *Crotalaria dichotoma*, Dichotomous C.; Diadel. Decan. and Leguminosæ; a shrub with yellow flowers, from Mexico.

2715. *Lockhartia elegans*, beautiful L.; Gynan. Monan. and Orchideæ; a beautiful stove shrub, with red and yellow flowers.

2716. *Gilliesia graminea*, grassy-leaved G.; Monad. Trian. and Gilliesiæ; a curious stove plant, with green and red flowers, from Valparaiso.

2717. *Deeringia Celosioides*, Celosia-like D.; Pentan. Monog. and Amaranthaceæ; a hardy, glabrous, inelegant annual, with red flowers, from New Holland.

2718. *Aster fruticosus*, small shrubby Cape A.; Syn. Pol. Super. and Compositæ; a greenhouse under shrub, with purple flowers in May, from the Cape, in 1759.

2719. *Bletia Woodfordii*, Woodfordian B.; Gynan. Monan. and Orchideæ; a handsome shrub, from Trinidad, in 1820.

Edwards's Botanical Register. Continued by John Lindley, Esq. F.L.S.
 In 8vo. Numbers. 4s. coloured.

No. CXLIII. for January contains

1030. *Mimulus luteus*, var. *rivularis*, Crimson M.; Didynam. Angios. and Scrophularinæ; the lowland variety of this plant from Chili. — Frame.

1031. *Datura ceratocaula*, horn stemmed stramonium; Pentan. Monog. and Solanææ, a showy hardy annual, from Cuba, with dirty white flowers in July.

1032. *Gesneria pendulina*, drooping flowered G.; Didyn. Angios. and Gesneriæ; a stove shrub, from Brazil, withered flowers in July.

1033. *Eugenia amplexicaulis*, stem clasping E.; Icos. Monog. and Myrtaceæ; a stove shrub, from Sumatra, with white flowers in July. — Cuttings.

1034. *Allium longifolium*, long leaved purple onion; Hexan. Monog. and Asphodeleæ; hardy, from Mexico, with deep purplish brown flowers in August.

1035. *Clerodendrum pubescens*, downy leaved C.; Didyn. Angios. and Verbenaceæ; a stove shrub, from St. Vincent's, in 1824, with dirty white flowers in August.

1036. *Sida malvæflora*, mallow flowered S.; Monad. Polyan. and Malvaceæ; a handsome, hardy, herbaceous plant, from New Albion, with pale pink flowers in October and November.

No. CXLIV. for February contains

1037. *Hellenia cærulea*, blue fruited H.; Monan. Monog. and Scitamineæ; a rare stove plant; herbaceous; from New Holland in 1826, with red flowers.

1038. *Amaryllis aulica* var. *platypetala*, Organ mountain A.; Hexan. Monog. and Amaryllideæ, a fine stove bulb from Brazil, in 1826, with red flowers.

1039. *Lavatera triloba*, purple rock L.; Monad. Polyan. and Malvaceæ; hardy herbaceous, from Spain, with purple flowers from July to September.

1040. *Oenothera cheiranthifolia*, stock-leaved OE.; Octan. Monog. and Onagrarieæ; a trailing hardy annual, from Chili, with yellow flowers from July till destroyed by frost.

1041. *Mirbelia dilatata*, wedge leaved M.; Decan. Monog. and Leguminosæ; a hardy greenhouse shrub from New Holland, in 1823, of eminent beauty, with bluish purple flowers in July.

1042. *Herreria parviflora*, small flowered H.; Hexan. Monog. and Asphodeleæ; a rare stove twiner from Rio de Janeiro, in 1826, with yellowish green flowers.

1043. *Smirantes grandiflora*, large flowered S.; Gynan. Monan. and Orchideæ; a large, flowered, and most remarkable plant, from Rio de Janeiro, in 1824. — Thrives among rotten wood.

Botanical Cabinet. By Messrs. Loddiges. In 4to. and 8vo. Parts.
5s. and 2s. 6d.

Part CXVII. for January contains

1161 to 1170. — *Aletris farinosa*, *Edwardsia grandiflora*, *Sarracenia rubra*, *Marica Sabini*, *Arum dracontium*, *Erica rubida*, *Callicoma serratifolia*, *Orobis variegatus*, *Anthyllis aspalathi*, *Arethusa bulbosa*.

Part CXVIII. for February contains

1171 to 1180. — *Lantana scabrida*, *Halesia diptera*, *Halesia tetraptera*, *Aristea capitata*, *Relhania pungens*, *Rhododendron catawbiense*, *Podolobium staurophyllum*, *Eulophia gracilis*, *Erica conica*, *Alstonia venenata*.

Geraniaceæ. By Robert Sweet, F.L.S. &c. In Numbers. 3s. each.

No. LXXXV. for January contains

337 to 340. — *Pelargonium flaccidum*, *Geranium Lamberti*, *Ciconium fulgens*, *Pelargonium foliosum*.

No. LXXXVI. for February contains

341 to 344. — *Pelargonium chelidoniifolium*, *Jenkinsonia Synnoti*, *Pelargonium recurvifolium*, et *argutum*.

The British Flower Garden. By Robert Sweet, F.L.S. &c. In 8vo.
Numbers. 3s. each.

No. XLVII. for January contains

185 to 188. — *Phlox nivalis*, *Tulipa tiercica*, *Gladiolus alceus*, *Eremurus spectabilis*.

No. XLVIII. for February contains

189 to 192. — *Adlumia cirrhosa*, *Phlox carolina*, *Potentilla splendens*, *Ferraria divaricata*.

Sir, — In the last Number of your valuable and widely circulated Miscellany, I observe, after recommending Mr. Sweet's excellent work, the British Flower Garden, you express a wish that, with hardy herbaceous plants, the author would also combine hardy ornamental trees and shrubs. Allow me to inform you, that Mr. Sweet has anticipated your suggestion, as you will see, by turning to the article *Passiflora Colvilli* (itself a shrub), and he promises, occasionally, to introduce ornamental shrubs and trees. In some of the subsequent Numbers we have figures of *Erythrina crista galli* and *Nauclea grattissima*, two of the finest shrubs ever introduced into this country. . Allow me to suggest to Mr. W. J. Shennan, of Gunnersbury Park, and Mr. Reid of the Holme, who have told us so exactly how to manage the *Erythrina* under glass, to try what they can do with it as an outdoor shrub, and oblige their fellow horticulturists with an account of the result. Wishing the Magazine that success which it deserves, I am, &c.

B. K.

Cistineæ. By Robert Sweet. In 8vo. Numbers. 3s. each.

No. X. for January contains

37 to 40. — *Helianthemum sulphureum*, *Helianthemum variegatum*, *Cistus cyprius*, *Helianthemum algarvense*.

The Botanic Garden. By Maund. In small 4to. Numbers. 1s. 6d. and 1s.

No. XXV. for January contains

97 to 100. — *Zinnia multiflora*, *Clematis integrifolia*, *Apocynum androsæmifolium*, *Galardia bicolor*.

No. XXVI. for February contains

101 to 104. — *Rudbeckia fulgida*, *Prunella grandiflora*, *Anemone coronaria*, *Lysimachia angustifolia*.

The British Farmer's Magazine. 8vo. in quarterly Numbers. 4s.

No. II. for February contains

Branch I. : Original Communications. — Agricultural Tour concluded. On the Losses sustained by Farmers by the ravages of Crows and Rabbits. On the planting and rearing of Forest Trees; by W. Withers, jun. (being the greater part of Mr. W.'s pamphlet on this subject quoted.) See our *Rev. Gard. Mag.* p. 75. On the Dairy Husbandry of Scotland; by W. Aiton, Esq. On the value of Salt for Agricultural Purposes. Mr. Gray on Agricultural Statistics: Letter II. British and French Swine (with an Engraving.) On the Use of Barley or Big as Food for Horses. On the present relative Duties of Wheat and Flour. Patents.

Biographical Sketches of Eminent Agriculturists: No. I. Mr. Coke of Norfolk.

Review of Agricultural Publications: Pamphlets, Letters, &c. on the Corn Laws. Burgess on Currency, &c. Waistell's Designs for Agricultural Buildings. Atkinson's State of Agriculture and Grazing in New South Wales. Aiton's Proposals for drawing up a new Statistical Account of Scotland.

Branch II. : Agricultural Intelligence. — Agricultural Meetings: Scotland. Ireland. Foreign and Colonial Intelligence. News of Agriculture; and Rural Economy, &c.

Branch III. : Sporting Intelligence. Agricultural Obituary.

Sweet, Robert, F.L.S., &c. Author of *Hortus Suburbanus Londinensis*, *Botanical Cultivator*, *Geraniaceæ Cistineæ*, the *British Flower Garden*, Bri-

tish Warblers, &c.; Sweet's *Hortus Britannicus*; or, a Catalogue of Plants cultivated in the Gardens of Great Britain; arranged in Natural Orders: with the Addition of the Linnean Classes and Orders to which they belong; Reference to the Books where they are described, their Native Places of Growth, when introduced, Time of Flowering, Duration, and Reference to Figures, with numerous Synonyms. Part II. London. 8vo. 10s. 6d.

Having already expressed a favourable opinion of this work, we have only to add, that it contains by far the greatest number of varieties and species of any catalogue that has yet appeared as enumerating the plants actually growing in Britain. The total number in our *Hortus Britannicus* will be greater, because we include the whole of the indigenous cryptogamia; in flowering-plants the two catalogues will be on a par. We regret to state, that a circumstance totally unforeseen has hitherto prevented the appearance of our *Hortus*; we defer entering into particulars at present, but in due time we shall do so, and we trust to the entire satisfaction of our readers.

Anon. Catalogue of Fruits cultivated in the Garden of the Horticultural Society of London at Chiswick. London. 8vo. pp. 224. 10s.

"An enumeration of the principal varieties of fruits actually cultivated in the garden of the Horticultural Society of London, in the spring of 1826. It comprehends nearly the whole of those which have ever appeared in print in foreign or English lists of authority, and as many unpublished kinds as have appeared to deserve record; but it excludes a large proportion of certain fruits, especially of apples and pears, the obscure varieties of which are so numerous as to make a complete enumeration of them, for the present at least, impracticable, often so worthless as to be undeserving of notice, and yet more frequently so doubtful as to render any mention of them, even by name, inadvisable.

"The number of varieties now enumerated amounts to 3825, and there exists in the garden nearly 1000 more, of less certain authority.

"As it is expected that this catalogue will become the standard of nomenclature for fruit-trees in the British dominions, any information which will lead to the correction or improvement of the orthography of the names, is requested to be communicated in writing to the Secretary of the Society."

With respect to the plan on which this catalogue has been formed:

"The varieties are arranged alphabetically under the botanical genera to which they are respectively referable. The index consists of all the Latin specific names in the catalogue, and of all the vulgar English and French general names, which may be considered equivalent to the former. Prefixed to each separate list are a few observations, generally explanatory of the views with which each has been prepared, and of the purposes to which the less known kinds are applicable."

The chief thing that we regret in this catalogue is its alphabetical arrangement, from which no sort of advantage can result either to the botanist, gardener, or general reader; while the reverse would have been the case had the fruits been grouped according to their natural affinities. As a proof that the alphabetical arrangement in this Catalogue is of no manner of use: suppose a gardener, botanist, or general reader, proposes to himself to turn at once to the quince, apricot, cherry, or chestnut. The changes the genera to which these fruits belong have been subjected to, are well known, so that no reader, without previously consulting the contents or index, could determine whether he should look for the quince as a *pyrus* or *cydonia*, the apricot as a *prunus*, as it is in Donn (10th edit. by Lind.), or an *armeniaca*, as

it is in Sweet (Hort. Sub.); the sweet chestnut as a fagus, as in Smith's English Botany, or a castanea, as in both Donn and Sweet. Again, where both Donn and Sweet agree, as in the case of the peach, which is amygdalus in both these authors, yet both are departed from, and in the Catalogue before us the peach and nectarine are arranged under the generic name persica. We by no means question the propriety of these alterations; on the contrary, under such an authority as Mr. Sabine, we have no doubt of their being improvements; all that we assert is, that they render the alphabetical arrangement of the Catalogue of no manner of use. The only certain way of finding out any particular fruit is, by turning to the index, where, as English, Latin, and French names are given, both generic and specific, this is very readily accomplished, and, being so, if any one arrangement in the body of the work was better than another, it might, without the slightest inconvenience, have been adopted.

Having shown that the alphabetical arrangement in this Catalogue is perfectly useless, it is hardly necessary to point out in what way placing the different fruits together, according to their natures, would have been useful. Not to waste time, it may be sufficient to say, that, by method, ideas are received, reasoned on, and applied, in masses instead of singly.

The bare inspection of the table of contents of a work methodically arranged conveys instruction relative to the things enumerated, while a mere alphabetical display, however perfect, can never convey an idea beyond that of the A, B, C. Such is our opinion of the advantages of methodical arrangement over alphabetical series, that we should wish to see it applied even to dictionaries of languages when on a large scale, such as the original editions of Johnson, Chambaud, and Ainsworth, with alphabetical indexes at the end or the beginning, to serve the purpose of ready reference. We trust we shall never see another edition of Miller's Dictionary, or of any botanical, horticultural, or agricultural work, of any extent, much less a general encyclopædia, on the A, B, C plan. We do not intend, however, to argue, that such methodical dictionaries should supersede the use of the common abridgments, nor that alphabetical botanical, or fruit tree catalogues should be given up; but we assert, that in most cases where the alphabet has been taken as a guide, method, that is the nature of the things arranged, would have been incomparably preferable; while, for the purpose of ready reference, an alphabetical index would not only have been sufficient, but even more convenient than alphabetical order in the body of the work. We may refer to our own Encyclopædias, or the Encyclopædia Metropolitana, as contrasted with the Cyclopædia of Dr. Rees, in proof of our assertion.

But to return to the Catalogue before us, we insist that nothing would have been lost in point of facility of reference, and something considerable gained in the knowledge of vegetable affinities, by a methodical arrangement. A work, issued by a body of men devoted to a particular art, and intended to become a "standard in the British dominions," should, at least, not have fallen short of the improvements of the age. Let the reader contrast the two following columns, and judge for himself.

Alphabetical Order, as in the Catalogue.		Natural Order, or Order of Vegetable Affinity.	
	Species and Varieties.		Species and Varieties.
Amelanchier	3	DICOTYLEDONÆ.	
Amygdalus	10	<i>Anonaceæ.</i>	Annona
Annona	2	<i>Berberidæ.</i>	Berberis
Arctostaphylos	2	<i>Aurantiacæ.</i>	Triphasia
Armeniaca	54		Glycosmis
Berberis	10		Citrus
Bromelia	95	<i>Sapindacæ.</i>	Euphoria
Cactus	1	<i>Ampelidæ.</i>	Vitis
Castanea	32		Vitis
Cerasus	246	<i>Rhamnaceæ.</i>	Zizyphus
		<i>Juglandæ.</i>	Juglans

<i>Cerasus</i>	Bird Cherry	9	<i>Cassia</i>	<i>Mangifera</i>	Mango	3
<i>Ceratonia</i>	Carob	1	<i>Terebinthaceae</i>	<i>Pistacia</i>	Pistachia	3
<i>Citrus</i> .....	.....	94	<i>Leguminosae</i>	<i>Ceratonia</i>	Carob	1
<i>Cornus</i>	Cornelian Cherry ..	2	<i>Amygdalineae</i>	<i>Amygdalus</i> ..	Almond	10
<i>Corylus</i>	Nut, Filbert	32		<i>Armeniaca</i> ..	Apricot	54
<i>Crataegus</i>	Azarole	3		<i>Prunus</i>	Plum	298
<i>Crataegus</i>	Hawthorn	30		<i>Cerasus</i>	Cherry	246
<i>Cucumis</i>	Melon	71		<i>Cerasus</i>	Bird Cherry	2
<i>Cucurbita</i>	Water Melon	2		<i>Persica</i>	Peach	224
<i>Cydonia</i>	Quince	8		<i>Persica</i>	Nectarine	72
<i>Diospyros</i>	Date Plum	2	<i>Pomaceae</i>	<i>Mespilus</i>	Medlar	5
<i>Elaeagnus</i>	Oleaster	1		<i>Eriobotrya</i> .....	.....	3
<i>Empetrum</i>	Crowberry	4		<i>Amelanchier</i> .....	.....	3
<i>Eriobotrya</i> .....	.....	3		<i>Pyrus</i>	Crab	30
<i>Eugenia</i>	Rose Apple	3		<i>Pyrus</i>	Apple	1205
<i>Euphoria</i> .....	.....	3		<i>Pyrus</i>	Pear (species) ..	8
<i>Ficus</i>	Fig	75		<i>Pyrus</i>	Pear	622
<i>Fragaria</i>	Strawberry	121		<i>Pyrus</i>	Service	13
<i>Gaultheria</i> .....	.....	1		<i>Cydonia</i>	Quince	8
<i>Glycosmis</i> .....	.....	1		<i>Crataegus</i>	Azarole	3
<i>Juglans</i>	Walnut	14	<i>Rosaceae</i>	<i>Crataegus</i>	Hawthorn	30
<i>Maclura</i> .....	.....	1		<i>Rosa</i>	Rose	8
<i>Mangifera</i>	Mango	3		<i>Rubus</i>	Raspberry	23
<i>Mespilus</i>	Medlar	5		<i>Rubus</i>	Bramble	21
<i>Morus</i>	Mulberry	6	<i>Myrtaceae</i>	<i>Fragaria</i>	Strawberry	121
<i>Olea</i>	Olive	1		<i>Eugenia</i>	Rose-Apple	3
<i>Oxycoccus</i>	Cranberry	2	<i>Punicaceae</i>	<i>Psidium</i>	Guava	4
<i>Passiflora</i>	Granadilla	4	<i>Cucurbitaceae</i>	<i>Punica</i>	Pomegranate ..	1
<i>Persica</i>	Peach	224		<i>Cucumis</i>	Melon	71
<i>Persica</i>	Nectarine	72	<i>Opuntiaceae</i>	<i>Cucurbita</i>	Water Melon ..	2
<i>Pinus</i> .....	.....	1		<i>Cactus</i>	Prickly Pear ..	1
<i>Pistacia</i>	Pistachia	3	<i>Grossularia</i>	<i>Ribes</i>	Currant	35
<i>Prunus</i>	Plum	298		<i>Ribes</i>	Gooseberry	185
<i>Psidium</i>	Guava	4	<i>Caprifoliaceae</i>	<i>Cornus</i>	Cornelian Cherry	2
<i>Punica</i>	Pomegranate	1		<i>Sambucus</i>	Elder	3
<i>Pyrus</i>	Crab	30		<i>Viburnum</i> .....	.....	2
<i>Pyrus</i>	Apple	1205	<i>Vacciniaceae</i>	<i>Vaccinium</i>	Whortleberry ..	23
<i>Pyrus</i>	Pear (species)	8		<i>Oxycoccus</i>	Cranberry	2
<i>Pyrus</i>	Pear	622	<i>Ericaceae</i>	<i>Arctostaphylos</i> .....	.....	2
<i>Pyrus</i>	Service	13		<i>Gaultheria</i> .....	.....	1
<i>Ribes</i>	Currant	35	<i>Ebenaceae</i>	<i>Diospyros</i>	Date Plum	2
<i>Ribes</i>	Gooseberry	185	<i>Oleaceae</i>	<i>Olea</i>	Olive	1
<i>Rosa</i>	Rose	8	<i>Boraginaceae</i>	<i>Varronia</i> .....	.....	1
<i>Rubus</i>	Raspberry	23	<i>Elaeagnaceae</i>	<i>Elaeagnus</i>	Oleaster	1
<i>Rubus</i>	Bramble	21	<i>Passifloraceae</i>	<i>Passiflora</i>	Granadilla	4
<i>Sambucus</i>	Elder	3	<i>Urticaceae</i>	<i>Ficus</i>	Fig	75
<i>Trapa</i>	Water Caltrops ..	1		<i>Maclura</i> .....	.....	1
<i>Triphasia</i> .....	.....	1		<i>Morus</i>	Mulberry	6
<i>Vaccinium</i>	Whortleberry	23	<i>Amentaceae</i>	<i>Corylus</i>	Nut Filbert	32
<i>Varronia</i> .....	.....	1		<i>Castanea</i>	Chestnut	22
<i>Viburnum</i> .....	.....	2	<i>Coniferae</i>	<i>Pinus</i> .....	.....	1
<i>Vitis</i>	Grape	159	<i>Empetreae</i>	<i>Empetrum</i>	Crowberry	4
<i>Vitis</i>	American Grapes ..	8	MONOCOTYLEDONEAE.			
<i>Zizyphus</i> .....	.....	3	<i>Hydrocharitaceae</i> ..	<i>Trapa</i>	Water Caltrops ..	1
			<i>Bromeliaceae</i>	<i>Bromelia</i>	Pine Apple	95

But while we entirely disapprove of the arrangement of this Catalogue, we have great pleasure in highly approving of the details of its execution; we only wish that the Dutch, German, Spanish, and Italian names of the commoner fruits had been given as well as the French general names, which might easily have been done from Nemnich's Lexicon (in the Society's Library). A few names are omitted, for instance, some of Mr. Braddick's pears enumerated in this Magazine, vol. i., the Barandam Cherry, &c. &c.; which we should have liked to have seen in, merely as an authority for orthography. But we hate to notice trifling matters. Even as it is, the Catalogue will be of great use to nurserymen as an authority for spelling the French names; and subsequent additions will become of still greater value, when, in consequence of examining the fruits in the garden of the Society, the varieties of each species shall be classed, all the synonyms pointed out, and the bad sorts discarded, as has been carefully and ably done in the case of the strawberries. There is no man in Europe so fit for superintending and getting accomplished this most desirable object as Mr. Sabine; we hope he will in due time accomplish it; but as this will require a number of years, we intreat him, and the Committee of publication, to consider whether, in a second edition of the Catalogue, it would not be worth while adopting the improvements which we have

suggested In the mean time we hope no nurseryman in the United Kingdom will fail to procure this Catalogue, even with its present imperfections; and having procured it, that each will immediately set about correcting the orthography of his lists of fruits, whether in manuscript or printed. We invite those who take our advice to send us copies of their new editions, to which we shall be happy, and consider it a duty, to give them publicity, accompanied with approbation or blame, as they may appear to us to deserve. The spelling of nurserymen's fruit catalogues, as they at present stand, especially of the French names, may be considered as discreditable to the profession.

Stephenson, John, M.D., Graduate of the University of Edinburgh; and *James Morss Churchill, Esq.* Surgeon, Fellow of the Medico-Botanical Society of London: Medical Botany; or, Illustrations and Descriptions of the Medical Plants of the London, Edinburgh, and Dublin Pharmacopœias, with those lately introduced into Medical Practice; comprising their generic and specific characters; English, Provincial, and Foreign Appellations; a copious List of Synonymes; Botanical Descriptions; Natural History; Physical, Chemical, and Medical Properties and Uses: including also a Popular and Scientific Description of Poisonous Plants, particularly those that are indigenous to Great Britain and Ireland; with Figures coloured from Nature: the whole forming a complete System of Vegetable Toxicology and Materia Medica. London. No. 1. 8vo. 3s. 6d. 4 Plates, coloured. To be continued Monthly.

Plate 1. is *Atropa belladonna*, deadly nightshade. The poisonous qualities reside in every part of the plant, and predominate in the fruit. The poison is of the narcotico-acrid class, and operates both locally and by entering the circulation. "When taken in an over-dose it produces symptoms of intoxication; vertigo; sickness; thirst, and difficulty of deglutition; the pulse becomes low and feeble; the face swelled; the pupils are dilated; vision is impaired; and these symptoms terminate in convulsions, coma, and paralysis." Above 150 soldiers ate of the berries at Pirna, near Dresden, exhibiting the above and other technicalities, and at last died moving their hands and fingers, and exerting their voices in "gay delirium." To remove the poison from the stomach Read's pump should be used; or sulphate of zinc or copper taken till vomiting is excited.

Plate 2. is *Convolvulus sepium*, great bindweed, the roots of which are of a purgative quality, a property which belongs more or less to all the species of the genus, and eminently so to *C. scammonia*.

Plate 3. is *Lolium temulentum*, bearded darnel, which differs from *L. arvense* in having awns on the spikelets. The seeds have intoxicating effects, and by the laws of China are forbidden to be used in fermented liquors. Some instances are given of death in consequence of eating bread made with darnel and refuse wheat; and, what is remarkable, "two acres of ground in Battersea Fields" were lately cultivated with darnel, as it is supposed, for being mixed with malt for making beer. The antidotes are emetics, and afterwards abundance of vinegar and water.

Plate 4. is *Croton tiglium*, purging croton, a native of Java and Ceylon; it is one of the most powerful of purgatives.

This work is very well got up, and will be useful to medical men in the country, as conveying a knowledge of practical botany, and vegetable materia medica at the same time.

Robberds, J. W. Jun. of Norwich: Geological and Historical Observations on the Eastern Vallies of Norfolk. Norwich. 8vo. pp. 76. 1 Plate.

Geological works may be considered as having the same relation to agriculture in its most extensive sense, as works on botany have to the culture

of plants, and we should therefore wish to see them more generally in the hands of practical men. The object of the present tract is to prove that the sea has once occupied the eastern vallies of Norfolk, and the valley of the Yare, as far or farther than the city of Norwich; consequently that it would not be difficult to deepen the river from Yarmouth to Norwich, so as to render it navigable; or to form a canal between Norwich and the sea, and render that city a port for shipping. The work is neatly executed, and of considerable local interest.

Waistell, Charles, Esq. Chairman of the Committee of Agriculture of the Society of Arts, edited by Joseph Jopling, Architect, Member of the Institution of Civil Engineers, inventor of the Septenary System of generating Lines by simple continuous Motion, Instruments for drawing Curves, &c. &c.: Designs for Agricultural Buildings, including Labourers' Cottages, Farm-Houses, and Out-Offices, conveniently arranged around Fold-yards, and adapted to Farms of various Sizes and Descriptions; to which are prefixed, an Essay on the Improvement of the Condition of Cottagers, necessary preliminary Information (illustrated by Wood-cuts) for constructing Agricultural Buildings, and Explanations on the several Designs; together with an improved Field Gate, and Stand for a Corn Rick. To which are added, Plans and Remarks on Caterham Farm-yard, as it formerly was; and also as it has been improved. London. 8vo. pp. 115. 12 Plates.

We have not at present space to admit of going into details respecting this work, but we cannot delay giving it as our opinion that it is by far the best that has yet appeared on the subject of which it treats. Every country architect and builder, and every land-steward, will find in it most valuable information, which, if acted on, would greatly improve every description of agricultural buildings and cottages in point of comfort, convenience, durability, and effect. Having, ourselves, paid a good deal of attention to this subject, we feel some confidence in offering our opinions.

Collyns, W. Esq. Surgeon, Kenton, near Exeter: Ten Minutes' Advice to my Neighbours, on the Use and Abuse of Salt as a Manure; with Directions for its Application in Gardens, Lawns, and Pleasure Grounds. Exeter. Pamph. 8vo. 4th Edit. 1s.

The object of Mr. Collyns, who our readers will recognise as our correspondent on the subject of his pamphlet (*Gard. Mag.* vol. i. p. 401 and vol. ii. p. 160.), is to shew his neighbours how they "may avoid their heavy lime bills, by substituting a dressing more efficacious, and twenty times as cheap." The high duty has till lately prevented salt from being used as a manure; but the washing of the lime-pits, and refuse salt, has always been eagerly bought up in Cheshire and other saline districts for that purpose. One farmer near Droitwich sowed wheat, seven years in succession, on a field of three acres, and had every year a fair average crop, having dressed with salt only. Salt, from sea-water, Mr. C. considers the best for agricultural purposes; and, after a variety of experiments, he is convinced that the preferable mode of application is to sow it on the surface, and harrow it in. The following is given as a recapitulation of Mr. C.'s experience as to quantity per acre.

"For fallows, from 15 to 50 bushels per acre; for wheat and rye, from 5 to 20 bushels; for barley, oats, peas, and beans, from 5 to 16 bushels; for turnips mangel wurzel, and other green crops, 15 bushels per acre, in January or February; for meadows and other grass lands, 15 bushels per acre before Christmas, or any time after, during hard frost; for potatoes, 10 bushels per acre. These proportions are for the first application only, as afterwards much less will be sufficient; for hay, a quarter of a hundred-

weight of salt to every ton of hay; for after-grass 5 bushels per acre." — (p. 28.)

"A lump of salt hung up for milch cows to lick occasionally, not only improves their condition, but, when they are eating turnips, entirely removes the peculiar turnipy taste from the milk and butter. Horses, too, are fond of licking salt, and are much benefited by it, especially where the hay is not very good: it is also said to cure them of the grease." — (p. 24.)

The chief argument in favour of salt acting as a manure is contained in the following passage: Muriates of soda, potass, sulphates of soda and potass, and nitrate of soda, are found in many or most plants.

"Now it is admitted that lime, which is a salt in the state it is used for manure, carbonate of lime, that another salt, gypsum, a sulphate of lime, and even the phosphate of lime from burnt bones, are found in vegetables, and constitute their condiment. Why, therefore, should it be denied to *muriate of soda*, so situated, to be an ingredient in their food also, to be a manure, and not a stimulant only." — (p. 21.)

Granting that salt is or may be in a slight degree food for plants and animals, surely the following extract proves it to be mainly useful from other qualities.

"It is to be remembered that the proportion of salt I have set down as proper for the different crops, is for the first salting only; two-thirds, and, in many places, one-half, the quantity stated, will suffice for every subsequent dressing for succeeding crops; and as the effect of salt when thus used is to convert the *dead* vegetable exuviae, so abundantly existing in or on almost all soils, into that state of decomposition in which they most readily become the pabulum or food of their *living* successors, the farmer must not expect, as he too often does to his own loss when using lime, that the effect of the first dressing will be continued in the second crop, without a second, though a smaller application of the decomposing material, which it is also necessary to continue for every succeeding tillage. And, here, too, would I observe, that from different experiments I have made, I am satisfied that the *benefit* of using marine salt gradually *increased* up to the proportion of 16 bushels to the acre, and as gradually *decreased* to 40 bushels; that is to say, in making these experiments I found the good effects of the salt upon the crop gradually increase, as I went on to determine the precise quantities, till I used 16 bushels to the acre, and that its fertilising effects appeared to diminish after using 20 bushels, on to 40, which quantity proved destructive both to grain and grass; so that 20 bushels per acre may be called the maximum, though the effect from 14 to 20 bushels per acre was the same; but beyond this quantity the crop deteriorated." — (p. 23.)

If salt or lime were chiefly valuable as food for plants, it is not likely that 40 bushels per acre would prove "destructive to both grain and grass."

With a view of facilitating the experiments we have recommended on this subject, (*Gard. Mag.* vol. ii. p. 6.) we shall only add, that 16 bushels to the acre is 5 lbs. 10 oz. to a perch, and 3 oz. to a square yard. After what we have already said (p. 6.), we need not repeat our most anxious wish to co-operate with Mr. Collyns, whose pamphlet in matter, style, and in price, is well adapted to circulation among farmers.

Nothing is said of the use of salt in kitchen-gardens; but its "caustic quality kills the slugs, grubs, and small insects, entirely destroys the mosses, lichens, and fungi, in old pastures, and in that way "the use of salt is a very great improvement in lawns and pleasure-grounds." — (p. 12.) — There is ample room, therefore, for gardeners to make experiments, and we hope they will be made extensively, and the results sent to us on or before the 1st of January next, as before requested. (*Gard. Mag.* vol. ii. p. 6.)

Steele, Andrew, Esq. of Crosswoodhill, Member of the Natural History and Agricultural Societies of Edinburgh: the Natural and Agricultural History of Peat-moss or Turf-bog; to which are annexed, corroborative Writings, Correspondence, and Observations, on the Qualities of Peat or Fen Earth as a Soil and Manure; and on the Methods used in Scotland for converting Moss Soils into Arable and Pasture Grounds, Plantations of Trees, &c. Edinburgh. 8vo. pp. 401. 10s. 6d.

A magazine of papers on the subject of peat, and of the improvements which the author made on the moss farm of Crosswoodhill, near Edinburgh; preceded by 107 pages, which constitute the natural and agricultural history of peat moss. The information is solid, plain, and practicable; but as it includes nothing that was not perfectly well known before, it might have been more usefully conveyed in a fifth of the space of paper and print, and at less than a third of the price.

Draining is the radical improvement of moss lands, and will alone and after some time change the kind of plants which grow on their surface. If, in addition to draining, the surface can be pared, burned, limed, and sown with white clover and a mixture of perennial grass seeds, almost all is done that is advisable to do under ordinary circumstances. Other than ordinary circumstances will admit, or may render advisable, the subjection of moss lands to a rotation of crops, or to planting with trees; but these are not likely to be of frequent occurrence, especially in the present times.

The best sorts of trees for planting on moss lands are evidently the birch, alder, willow, and indigenous poplars. The Scotch pine is found to do well, and also the spruce, but not the larch.

"At Whim, in Peebleshire, the seat of Sir James Montgomery, Bart. there are as fine spruce firs, perhaps fifty years old, growing on a deep moss soil, as I ever saw. There are likewise many other good trees growing there, and I was informed that the moss is so very deep that their roots could not possibly touch the solid ground."

FRANCE.

Désormeaux, Paulin M. A.: Les Amusemens de la Campagne, contenant 1. La Description de tous les Jeux qui peuvent ajouter à l'Agrément des Jardins, servir dans les Fêtes de Famille et de Village, et repandre la Joie dans les Fêtes Publiques; 2. L'Histoire Naturelle, les Soins qu'exige la Volière, l'Art d'empailler les Animaux, le Jardinage, la Pêche, les diverses Chasses, la Navigation d'Agrément, des Récréations de Physique, des Notions de Géométrie pratique, d'Astronomie, de Gnomonique, des Principes de Gymnastique amusante, d'Equitation, de Natation, de Patinage, des Leçons sur les Artes de la Menuiserie, du Tour, du Dessin, de la Perspective, des Recettes agréables à connaître, &c.; et généralement tout ce qui peut contribuer à charmer les Loisirs de ceux qui habitent la Campagne; recueillis par plusieurs Amateurs. Paris. 12mo. 6 vols. 40 pl. 24 fr.

This work is favourably spoken of by the French critics. "We find in the first volume treatises on the poultry-yard, recreative gardening, the language of flowers, the art of riding, hunting, and snaring animals. Shooting, fishing, the culture of silk-worms, and bees, form the second. The third treats of natural history, the art of swimming, amateur navigation, geometry, amusing astronomy, the construction of sun-dials, joinery, turning, the fabrication of arbour-work and fire-works; finally, the fourth

volume is reserved to the notions of perspective, optica, the art of conveying information by signals, hydraulics; to games of dexterity, as well in village festivals as in gardens, and, in short, to gymnastic exercises."

Un Jardinier Agronome: Annuaire du Jardinier et de l'Agronome, pour 1826. Paris. 18mo.

This is intended as a rival work to the *Bon Jardinier*, but on a smaller scale, and on the principle of never repeating what has been said in the preceding year; "so that," as the author observes, "after ten, fifteen, or twenty years, the purchaser will possess a work of ten, fifteen, or twenty volumes of original matter."

Pirolle, M., Amateur Cultivator, and formerly Editor of the Bon Jardinier: Le Jardinier Amateur, ou l'Horticulture Française; Premier Supplément. Paris. 12mo. 2 fr.

The "*Jardinier Amateur*" is a useful treatise on horticulture, as practised in France, perhaps preferable to the *Bon Jardinier*. It appeared, as we have already noticed, (*Gard. Mag.* vol. i. p. 319.) in 1825. M. Pirolle informs us, that every year, instead of a pretended new edition, a detached supplement will be published, and the present is the supplement for 1826-7.

In glancing it over, with a view to detect any thing new or curious, the first thing we notice is *Rumex patientia*, or patience-dock, recommended as an excellent sorrel spinnage. It seems that plant has fallen into disuse in France as well as in Britain. *Poire Sabine*, is said to be only *Poire d'Austrasie*. "Cette poire finira sans doute, comme tant d'autres, par se donner ou se vendre sous vingt noms différens." The culture of tulips is becoming fashionable in the neighbourhood of Paris; six lines are put in a bed, and lists are given of the sorts adapted for each line; what adds to the value of these lists is, that the colours are designated after each name. Similar lists for this country we hope to receive from Mr. Groom or Captain Butler. Auriculas are said to be still rare in the neighbourhood of Paris; the Liégeois are the greatest cultivators of this flower on the Continent. By an error, probably accidental, the catalogues of English nurserymen are said to contain only twenty-seven varieties of chrysanthemum, while that of M. Noisette contains forty, and that of M. Soulange-Bodin still more. *Anemone perennis semperflorens*, sent to M. Pirolle last year, flowers like the Bengal rose, from April to November. We are not aware that this variety of anemone is known about London.

In an article on the varieties of rose, now so numerous, we are informed that almost every variety has nearly half a dozen of names, and that though some commercial catalogues enumerate above 1000 of these names; yet that it is allowed by the best judges about Paris and Rouen, that there are only between 500 and 400 distinct sorts in the nurseries. By far the best collection in France is in the garden of the Luxembourg; it includes all the species as well as varieties; M. Hardi the gardener, on purpose to enrich this collection, has examined the roses of the principal gardens of England, Holland, and France; every year he receives a number of additions, which, after flowering, he either rejects or adds to his collection as they prove new or mere repetitions; and though he has nearly 3000 names in his catalogue, yet he acknowledges that the distinct sorts in his possession do not bear a greater proportion to the names, than the distinct sorts in the nurseries do to the printed sale lists.

The following list is given of "Roses which appear the most worthy of selection by amateurs, taken from the most numerous collections of France."

As the lists in this country contain no descriptive particulars, (excepting the list of Scotch roses by Messrs. Austin and M'Aslan, noticed p. 102.) that now given may prove a useful guide at this season to such of our readers as wish to possess a choice collection. They may be had from any of the principal nurserymen, and at an average, we believe, of 3s. per standard, or 1s. per dwarf. We have numbered them, to facilitate the giving of orders, as all the principal nurserymen in Britain and France take this Magazine. A good method of giving an order is, — so many from each division, or — for so much money from each division, — leaving the choice to the nurseryman. By this mode, a better bargain is got, and with less risk of disappointment, than by fixing on names at random, which may happen to be scarce, dear, or bad growers.

Those marked (*) are in flower the greater part of the summer, and constitute a choice collection for a very small garden; *r.* red; *w.* white; *cr.* crimson; *fl.* flesh; *v.* violet; *bl.* black; *l.* light; *d.* dark; *st.* striped; *var.* variegated; *p.* purple; *y.* yellow; *lil.* lilac; *or.* orange.

SECT. I. — *Roses with flowers of a small size, or from 12 to 18 lines in diameter; 36 sorts.*

- | | | |
|---------------------------------------|------------------------------------|-------------------------------------|
| 1 Agathe à fleurs carnées, <i>fl.</i> | 14 Centfeuilles naine, <i>r.</i> | 27 Petite Evêque, <i>cr.</i> |
| 2 Agathe merveilleuse, <i>fl.</i> | 15 Croix de la légion, <i>r.</i> | 28 ——— Eugène, <i>rose.</i> |
| 3 Agathe odorante, <i>r.</i> | 16 Damas multiflore, <i>fl.</i> | 29 ——— Junon, <i>rose.</i> |
| 4 Alsire, <i>r.</i> | 17 Gracilis, <i>w.</i> | 30 Pimprenelle jaune, <i>y.</i> |
| 5 Anaïs, <i>cr.</i> | 18 Holosericea, <i>cr.</i> | 31 ——— double carnée, |
| 6 Athénais, <i>p.</i> | 19 Hybride illustre, <i>fl.</i> | <i>y. fl.</i> |
| 7 Bengale anémone, <i>r.</i> | 20 Junon Hybride, <i>rose.</i> | 32 Renoncule pourpre, <i>p. cr.</i> |
| 8 ——— renoncule rose, <i>d. r.</i> | 21 La Blonde, <i>w.</i> | 33 Rose Berthet, <i>r.</i> |
| 9 ——— Roxelane, <i>d. r.</i> | 22 La Marbrée, <i>rose.</i> | 34 ——— Volème, <i>cr. viol.</i> |
| 10 ——— Sanguin, <i>d. r.</i> | 23 Moelibée, <i>rose.</i> | 35 Toque royale, <i>rose.</i> |
| 11 Camellia, <i>r.</i> | 24 Pauline, <i>rose. fl.</i> | 36 Victoire bizarre, <i>viol.</i> |
| 12 Centfeuilles anémone, <i>r.</i> | 25 Petite Agathe, <i>rose. fl.</i> | |
| 13 ——— gros pompon, <i>r.</i> | 26 ——— Carnée mignonne, <i>fl.</i> | |

SECT. II. — *Roses with flowers of the second size, or from 18 to 24 lines in diameter; 82 sorts.*

- | | | |
|---|-------------------------------------|---|
| 37 Adeline, <i>rose.</i> | 62 * Bengale thé à fleurs | 91 Leda, <i>rose.</i> |
| 38 Agathe admirable, <i>rose. viol.</i> | rouges, <i>r.</i> | 92 Manette, <i>v.</i> |
| 39 ——— Fatimé, <i>rose.</i> | 63 * ——— Ternaux, <i>r.</i> | 93 Mordant de Launay, <i>rose.</i> |
| 40 ——— prolifère, <i>rose.</i> | 64 Bizarre de la Chine, <i>fl.</i> | 94 Mousseuse de la Flèche, <i>rose.</i> |
| 41 ——— rose, <i>rose.</i> | 65 ——— flammé, <i>fl.</i> | 95 ——— panachée, <i>st.</i> |
| 42 ——— royale, <i>w. rose.</i> | 66 ——— noir, <i>bl.</i> | 96 Obscurité, <i>bl.</i> |
| 43 Alba aurantia, <i>y. or.</i> | 67 Blanche violacée <i>w. v.</i> | 97 Palmyre, <i>rose.</i> |
| 44 Alexandrine, <i>fl. bl.</i> | 68 Calypso, <i>cr.</i> | 98 Pimprenelle double mar- |
| 45 Arsinoé, <i>cr.</i> | 69 Célestine, <i>w.</i> | brée, <i>var.</i> |
| 46 Belle bouquetière, <i>d. r.</i> | 70 Celestis alba, <i>w.</i> | 99 ——— blanche nou- |
| 47 ——— olympé, <i>r.</i> | 71 Centfeuilles gaufré, <i>st.</i> | velle, <i>w.</i> |
| 48 ——— sans flatterie, <i>fl.</i> | 72 ——— panachée, <i>st.</i> | 100 ——— du Luxem- |
| 49 * Bengale atropourpre, <i>p.</i> | 73 Clémentine, <i>r.</i> | bourg, <i>w.</i> |
| 50 * ——— belle de Monza, <i>p.</i> | 74 Cramoisi grand feu, <i>cr.</i> | 101 Poniatowski, <i>w.</i> |
| 51 * ——— blanc ordinaire, <i>w.</i> | 75 Damas tormenteux blanc | 102 Pourpre bronzé, <i>p.</i> |
| 52 * ——— blanc du Luxem- | panaché, <i>cr.</i> | 103 Provins blanc, <i>w.</i> |
| bourg, <i>w.</i> | 76 ——— d'Italie, <i>fl.</i> | 104 Portlandica, <i>fl.</i> |
| 53 * ——— couleur de chair, <i>fl.</i> | 77 ——— argenté, <i>fl.</i> | 105 ——— double violet, <i>v.</i> |
| 54 * ——— double rouge vif, | 78 ——— précieux, <i>fl.</i> | 106 Rouge bronzé, <i>d. r.</i> |
| <i>d. r.</i> | 79 Déjanire, <i>r.</i> | 107 ——— élégant, <i>d. r.</i> |
| 55 ——— duchesse de Parme, | 80 Duchesse d'Angoulême, <i>fl.</i> | 108 Renoncule argentée, <i>rose. w.</i> |
| <i>d. r.</i> | 81 Duputren, <i>cr.</i> | 109 Rose de Hesse, <i>cr.</i> |
| 56 * ——— Etna, <i>d. r.</i> | 82 Egérie, <i>r.</i> | 110 ——— Augustine, <i>pale rose.</i> |
| 57 * ——— gros pompon rose, | 83 Fabert, <i>cr.</i> | 111 ——— mille, <i>pure w.</i> |
| <i>r.</i> | 84 Feu brillant, <i>cr.</i> | 112 ——— verte <i>r. and green.</i> |
| 58 * ——— Vésuve, <i>flame.</i> | 85 Folie Bonaparte, <i>flery r.</i> | 113 La rose unique, <i>w. r.</i> |
| 59 * ——— unique, <i>w.</i> | 86 Guérin, <i>v.</i> | 114 ——— uniflore, <i>v.</i> |
| 60 * ——— renoncule violette, | 87 Lasthénie, <i>fl.</i> | 115 Talma, <i>cr. v.</i> |
| <i>v.</i> | 88 La Tendresse, <i>rose v.</i> | 116 Valentine, <i>r.</i> |
| 61 * ——— splendens, <i>r.</i> | 89 La Valette, <i>w. fl.</i> | 117 Violette merveilleuse, <i>v. w.</i> |
| | 90 L'invincible, <i>d. r.</i> | 118 Yorck et Lancastre, <i>w. r.</i> |

SECT. III. — *Roses with flowers of the third dimension, or about 30 lines in diameter ; 85 sorts.*

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|---|--|--------------------------------------|
| 119 Agathe de Portugal, rose. | 147 Charlotte de la Charms, rose. w. | 175 Mousseuse blanche nouvelle, w. |
| 120 ——— pyramidale, rose. | 148 Coquette, rose. | 176 ——— carnée, fl. |
| 121 Aimable Hortense, w. fl. | 149 Couronne impériale, cr. | 177 ——— craniole, cr. |
| 122 ——— rouge, r. w. | 150 Damas pourpre, p. | 178 Mutabilis, cr. |
| 123 Aigle brun et Aigle noir, fl. | 151 De Lille, rose. | 179 Ornement des rouges, r. |
| 124 Althé, rose. | 152 Desfontaines, cr. | 180 Oubli des Français, cr. |
| 125 Altissima, rose. | 153 Désirée, cr. | 181 Passe-velours, v. |
| 126 Amélie d'Orléans, rose. | 154 Elisa Decemet, rose. | 182 Pimprenelle à grandes fleurs, r. |
| 127 Beau Carmin, fl. | 155 Floride, rose. | 183 ——— Camellia, r. |
| 128 ——— velours, v. | 156 Galatée, rose. w. | 184 Pourpre ardoisé, p. |
| 129 Beauté pale, l. r. | 157 Georgienne rose. | 185 Prométhée, cr. |
| 130 Belle Auguste, w. | 158 Grande monarchie, cherry. | 186 Quatre saisons sans épines, r. |
| 131 Belle Didon, r. w. | 159 Incomparable Luxembourg, rose. | 187 Roi des violettes, d. v. |
| 132 ——— Equernoise, cr. | 160 Indica major, rose. | 188 Rose des poètes, rose. |
| 133 ——— Lise, w. fl. | 161 Jeannette, r. | 189 ——— du Roi, cr. |
| 134 ——— Louise, r. | 162 Junon, cr. | 190 ——— pavot, rose. |
| 135 ——— Mignonne, rose. | 163 La Peyrouse, fl. rose. | 191 ——— striée, d. |
| 136 Bengale Catherine II, rose very double. | 164 La plus belle des Violettes, d. v. | 192 Rouge formidable, r. |
| 137 * Bengale duc de Grammont, rose. fl. | 165 La Valette, rose. | 193 Roxelane, d. rose. |
| 138 * ——— Molière, rose. | 166 Léonide d. r. | 194 Salomon, fl. |
| 139 * ——— soufre, sulph. | 167 Lucida nouvelle, r. | 195 Sapho, var. |
| 140 * ——— thé, cream. | 168 Madame de Tressan, r. | 196 Spectabilis purpurea, p. } |
| 141 Boquet parfait, cherry. | 169 Manteau rouge, fl. | 197 Superbe brun, p. |
| 142 Cardinal prolifère, cr. | 170 ——— royal, r. | 198 Teint doux, fl. |
| 143 Centfeuille Decemet, r. | 171 Merveilleuse rouge, fl. | 199 Temple de Mars, r. |
| 144 ——— Van Spaendonck, r. | 172 Minerve, fl. | 200 Transparente, rose. |
| 145 ——— Vilmorin, r. | 173 Mousseuse ordinaire, r. | 201 Triomphe de Flore, rose. |
| 146 Cernay, rose. w. | 174 ——— blanche ordinaire, w. | 202 ——— des dames, rose. |
| | | 203 ——— pourpre, p. |

SECT. IV. — *Roses with flowers of the largest size, or 3 inches and upwards in diameter ; 51 sorts.*

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| 204 Agathe Clarisse, fl. | 222 Centfeuilles vierge, l. rose. | 240 Mithridate, r. |
| 205 ——— Corine, fl. | 223 Centifolia pulcherrima, ros. | 241 Morpha, d. r. |
| 206 ——— magnifique, fl. | 224 ——— des Peintres, rose. | 242 Nouvelle Pivoine de Lille, fl. |
| 207 Athalie, fl. | 225 Circassienne, rose. | 243 Ourika, d. r. |
| 208 Belle d'Aunay, fl. | 226 Constance, ou grande rose de Hollande, rose. | 244 Pivoine, v. |
| 209 ——— d'Auteuil, fl. | 227 Cornouailles v. ill. | 245 * Portlandica grandiflora, rose. fl. |
| 210 ——— Hélène, rose. | 228 Courtin, fl. | 246 Prince de Galles, cr. |
| 211 ——— de Trianon, rose. | 229 Duc de Berry, d. r. | 247 Princesse de Salm, rose. |
| 212 ——— Henriette, rose. | 230 ——— de Chartres, d. r. | 248 Provins monstrueux, rose. v. |
| 213 ——— Thérèse, rose. | 231 Ex albo rosea w. fl. | 249 Rose de Messine, rose. fl. |
| 214 Bengale Pivoine, rose. | 232 Globe céleste, fl. | 250 Sainte-Hélène, d. rose. v. |
| 215 Cartier, l. r. | 233 Grand Triomphe, rose. v. | 251 Sévigné, rose. |
| 216 Cels, l. r. | 234 Hécate, cr. | 252 Toison d'or, y. |
| 217 Centfeuilles d'Auteuil, rose. | 235 Illustre, rose. | 253 Triomphe du Luxembourg, rose. |
| 218 ——— de Bruxelles, rose. | 236 Léonidas, rose. | 254 Turban royal, r. v. |
| 219 ——— de la Meuse, rose. | 237 Madame de Stael, rose. cr. | |
| 220 ——— de Nancy, rose. | 238 Méhul, cr. rose. | |
| 221 ——— Nouvelle du Luxembourg, d. rose. | 239 Merveille du monde, rose. cherry. | |

SECT. V. — *Climbing Roses ; 12 subspecies, and numerous varieties of Noisettes and Multiflora.*

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|------------------------------------|---|---|
| 255 Rosa arvensis, w. | 260 Banksiana, w. and y., single and double. | 264 Boursault, rose. |
| 256 Sempervirens, w. | 261 Multiflora, several varieties, w. and l. r. | 265 Reversa, r. |
| 257 Bracteata, w. | 262 Grevillii, p. | 266 Russelliana ; the Cottage rose of Messrs. Cormack and Sinclair, pale red, large size. |
| 258 Roxburghi, w. | 263 Noisette, pale r. | |
| 259 Mochata, w. single and double. | | |

SECT. VI. — *Scotch Roses ; 300 distinct sorts.*

These may be selected from Messrs. Austin and M'Alan's descriptive one-sheet catalogue before commended. (p. 102.) Fifty sorts will make a handsome collection.

M. Pirolle gives a list of synonyms, (pp. 71—73.) which will be found very useful to such nurserymen as intend reducing their catalogues to truth and real usefulness. Indeed, as the varieties enumerated both in l'Horticulteur Français, and its supplement, have short descriptions added, both works

may be profitably consulted by the British cultivator for the purpose alluded to.

Laurus nitida and other species have been introduced by M. Soulangé-Bodin; and the same distinguished cultivator brought from Antwerp a double white *nerium oleander*. *Cydonia chinensis flore lutea*, *Camellia axillaris*, *Dianthus bellidifolius*, *Anemone arborea*, probably a species of *Atragene*, *Pæonia humea*, "qui l'Anglais l'ont dédiée au philosophe Hume," (!!) and some other plants, are mentioned as of recent introduction.

The establishment of our correspondent, the Chevalier Soulangé-Bodin, at Fromont, is described, as "conceived on a plan the most extensive and well devised, and developed with a rapidity and a success which does the greatest honour to the ingenuity of the conceptions, and the ardour of the zeal of its proprietor and founder." Three years ago the Fromont garden was a park, or English pleasure-ground, of about 100 acres; at present it is a nursery with numerous hot-houses of every dimension, constructed with skill, elegance, and economy. The compartments of the garden are arranged and prepared according to the different descriptions of nursery propagation and culture; in some the soil is trenched and sifted to a great depth; in others it is removed and replaced by beds of peat mould. Every thing is arranged in the most orderly manner, and all the compartments, as well as the plants, are named on labels conspicuously placed, so that a stranger, in a great measure, sees and understands the purpose of every part, and the name of every object, without the necessity of enquiring of his guide. This may afford a useful hint to some other establishments. M. S.-Bodin has published a priced catalogue of plants on sale at Fromont, (*Gard. Mag.* vol. i. p. 196.) and M. Pirolle assures us that the prices are very moderate, considering the rarity of some of the plants; and that it is intended to lower these prices in proportion as the difficulties of propagation are surmounted. Mr. P. pays the highest compliments to the enthusiasm and perseverance of M. S. Bodin, and rejoices as we do in his success.

It has been observed to us by several English gardeners who have been at Fromont, that it is the only nursery establishment on the Continent which resembles those of England; and this we consider to be the most solid and substantial tribute which can be paid to its proprietor.

GERMANY AND SWITZERLAND.

Closen, Baron de: Die landwirthschaftliche Erziehungsanstalt in Gern. Establishment for Agricultural Education at Gern in Bavaria. Munich. 8vo. pp. 32.

Closen, Baron de: Rede gehalten bei Eröffnung der landwirthschaftliche Erziehungsanstalt in Gern. Discourse pronounced on the Opening of the Establishment for Agricultural Education at Gern. Munich. 8vo. pp. 20.

The Baron de Closen is the proprietor of Gern, an extensive estate in the circle of the Lower Danube in Bavaria, and his principal object in forming the present institution, is to educate the poorer children on his own estate, and especially orphans. In his prospectus, he states that he has examined the schools at Hofwyl and Hohenheim, that of M. Voght (*Gard. Mag.* vol. i. p. 441.) near Altona; the institution for orphans and poor children, established by M. de Tuskow at Friedrichsfeld, near Berlin, and a similar institution near Basle, and adopted at Gern what he found excellent in each. In addition to the children on his own estate, he proposes to take fifty or sixty other children, the orphans or the poor of other districts at 50 fl. per annum. These children are to be from ten to

twelve years of age, and to remain five years in his establishment. He engages to give them three sorts of instruction; viz. elementary, as reading, writing, arithmetic, and cosmography; technical, as agriculture, domestic economy, and all the trades which belong to them, such as butchery, meal-making, spinning, distillery, brick-making, &c. &c.; practical, that is, how to work in or execute all these rural occupations, male as well as female, including spinning, tailoring, milking, cheese-making, &c. The establishment was opened on the 4th of November, 1825; in the discourse pronounced on which occasion, it is stated, that when the children have completed their education, they will be fit to embrace any of the different professions which belong to rural economy; such as miller, baker, innkeeper, gardener, forest-keeper, brick-maker, distiller, &c.

All the labours of the establishment are to be performed by the pupils; an account is to be opened for each individual, in which he is to be charged with the prime cost of his food, clothing, and instruction, and credited with the estimated value of his labour, and if at the period when he leaves the establishment there should be a balance in his favour, it is paid him. Baron de C. calculates that in most cases the pupils will have something to receive.

Verhandlungen des Vereins, &c. Transactions of the Prussian Gardening Society. Part IV. Berlin. 4to. 8 pl. 3 thdr.

The principal paper in this *Part* is on the construction of hot-houses, by Mr. Otto, the secretary, and Mr. Schramm, inspector of buildings, or what we would call surveyor. It is one of the most comprehensive and judicious treatises on the subject that has yet appeared on the Continent, where, as Mr. Otto observes in his introduction, that department of garden architecture has undergone an entire revolution within the last twenty years. Six of the plates are in illustration of this treatise, (which is also published separately, price 2 thr. 10 gr.) and the remaining two are of *Cassia rostrata*, and *Hibiscus fugax*, handsome stove-plants, with yellow flowers. All the papers in this and the preceding *parts* will afterwards be duly examined with a view to extracts; here we have only room to notice the establishment in Esslingen of a society for sending out botanical collectors; a much better plan, in our opinion, than joining that department with horticulture.

ITALY.

Il Fattore di Campagna; or, the Land Steward; a monthly agricultural Journal. Milan. 8vo.

The number for May contains an able article on the necessity of educating the agricultural population, and on the means of accomplishing this purpose. These means are the Sunday and holyday schools for teaching reading, writing, and arithmetic, to the younger children; and week-day schools, to be established, and in great part maintained, by the principal proprietors, for teaching the operations of agriculture, the theory of their effects, and also the operations and theories of the various rural arts most connected with a country life, such as the various branches of building, the art of the miller, baker, brewer, smith, veterinary surgeon, &c. The Sunday schools are to be entirely managed by the local clergy, and not to commence till after the church service has been completed; the schools of practical instruction are to be under the direction of the land-steward of the estate on which it is established; and foreign languages, religion, and politics are not to be included in the instructions. In many cases, the whole of these instructions will be given by the steward alone; in others he will have competent assistants, and chiefly from the local clergy. The principal expense will be borne by the proprietors, but a part also by the pupils, on the principle that what costs nothing is but little valued.—The cause of knowledge is prospering all over the world.

ART. IV. — *Notices of New Works in the Press, &c.*

Arbusculensis; or, a Treatise on the Growth and Culture of the Currant, Gooseberry, Raspberry, and Strawberry. By R. F. D. Livingstone, Vauxhall, Surrey. Subscribers' names received by Mr. Harding, Bookseller, St. James's Street, and by the Author, Exhibition of Fruit Trees, Wandsworth Road, Vauxhall.

A New Edition of Meteorological Essays, by James Frederick Daniell, Esq. F.R.S.

Deliciæ Sylvarum. Mr. Strutt, the Author of "*Sylva Britannica*," a splendid series of portraits of remarkable trees, in imperial folio, is preparing for publication, *Deliciæ Sylvarum*; or, Select Views of Wild and Romantic Forest Scenery, drawn from Nature, and etched by himself.

Hooker and Taylor's Muscologia Britannica. The second edition of this work is ready for publication, and will contain, many new Mosses and six supplementary Tables.

Hortus Siccus Londinensis; or, a Collection of dried Specimens of Plants growing wild within Twenty Miles round London, named on the Authority of the Banksian Herbarium, and other original Collections. By D. Mariano La-Gasca, late Professor and Director of the Botanical Garden of Madrid, Foreign Member of the Horticultural Society of London, and of many other Scientific Academies in Europe.

This work will contain specimens of all the plants growing spontaneously in a radius of twenty miles round London, considering the Royal Exchange as a centre.

It will be published in parts, each containing twenty-five plants, fixed on stout yellow wove post folio. Each species will be on a separate leaf, and so disposed, that the work may be bound in volumes of four parts without any injury to the specimens. They will be fixed to the paper by means of slips of paper pasted with glue, so that should it be wished to examine the plants more conveniently, they may be removed without any fear of breaking them.

With the name of the plant will be given the place or places where it may have been found, and the time of its flowering. It is also proposed to state those places where the same plant is to be met with in Spain, of whose Flora but very little is generally known; thus the Author, whilst satisfying the curiosity of the English Botanist, will, at the same time, be serving those of his own country who very much desire correct information of the Plants of Linnæus.

Although the Author has studied Botany with unremitted attention for more than thirty years, he does not altogether trust to his own knowledge, and the names of the plants are given after having been compared with the Herbarium of the immortal Sir Joseph Banks, (now in the possession of the celebrated R. Brown, Esq., the plants of which have been compared with those of the original Herbarium of Linnæus, of Aylmer Bourke Lambert, Esq. and those of the Messrs. Sowerby, who possess the original plants from which were executed the engravings for the "*English Botany*." These plants were described by the learned Sir James Edward Smith, author of the "*English Flora*," and carefully compared with those of the Linnæan Herbarium possessed by the same author. The Author, assisted by his two eldest sons, will every year be able to publish six Parts.

Subscriptions for the work will be received at the house of the Author, 25. Camden-Place, Camden-Town; at the library of Mr. Salva, 124. Regent Street, and at G. B. Sowerby's, F. L. S., 156. Regent Street. The amount of subscriptions to be 1*l.* each Part. Subscriptions to be paid on receiving the different Parts.

Part I. is already published, and it is intended to publish one Part every other month.

Professor La-Gasca, as our readers will recollect, is the Author of the interesting article on the Botany and Gardening of Spain, given in our first volume (p. 235.); and whoever recollects the feeling manner with which this truly amiable man deploras the misfortunes of his country, and relates his own unhappy situation, "a fugitive and a proscrip from his native country," will join with us in most heartily wishing him that success which he merits, not only as a Botanist, but as a victim in the cause of liberty, and the general progress of society. Little do many of our readers know the arduous struggles for existence incident to a person situated like Professor La-Gasca; it is necessary to have undergone certain changes, — to have drank one's self of the cup of misfortune, — to form an idea of the almost hopeless adversity of his case. Yet Mr. La-Gasca's resignation, meekness, firmness, and even cheerfulness, are truly exemplary, and may be cited as an example of the moral sublime. Occupation and employment are the resources to which he must have recourse, and on these accounts we sincerely hope he will meet with a full measure of demand for his Hortus Siccus.

The usefulness of such a work to all who are desirous of knowing something of practical botany is unquestionable; it will be of particular interest to ladies who take an interest in this study, as it furnishes the easiest of all ways of knowing plants by sight; and a stock of this sort of knowledge laid up in youth, and which may be done by a Hortus Siccus within doors or in a city, creates, like a taste for sketching landscape, a distinct source of enjoyment for walks in the country during the after-period of life. It may be proper to mention, that as the indigenous plants of twenty miles round London will include most of the native plants of common occurrence in Europe, any one knowing by sight all that will be contained in the Hortus Siccus Londinensis, may be considered as having a very respectable knowledge of plants.

It will be seen by the prospectus that Mr. La-Gasca has the countenance and assistance of the first botanists about London. To such botanists in the country, as have specimens of indigenous plants, we would suggest, that their duplicates, or a part of them, would in all probability be very acceptable to Mr. La-Gasca. We would farther suggest to such of our readers as do not know much of botany themselves, or who wish to have it taught in an easy and effectual manner to their children, that they might order from Mr. La-Gasca dried plants for this purpose with great benefit. They might for example give any or all of the following orders.

A Hortus Siccus to illustrate each of the Twenty-four Classes of Linnæus, and the principal Orders in each Class; which might be done, exclusive of binding, for any sum from 5l. to 20l.

A Hortus Siccus to illustrate the Classes and Orders of the Natural System, as far as respects Hardy and the Common Hot-house Plants; from 7l. to 50l.

A Hortus Siccus of the Plants most commonly met with in Great Britain; whether Natives, in Culture, or preserved in Hot-houses; say as many sorts as can be afforded for 2l. 3l. 5l. 7l. 10l. 20l. &c.

A Hortus Siccus of the Plants of any particular Country, which would be very useful for persons going abroad; or of any particular Class, Tribe, or Family of Plants, as the Grasses, Clovers, Heaths, Common Weeds, Medicinal Plants, Poisonous Plants, &c. &c. might be ordered, and the price either limited before hand, or left to the discretion of Mr. La-Gasca.

Our anxiety that Mr. La-Gasca should be fully occupied will, we trust, be a sufficient excuse to him for having gone into so much detail without saying any thing to him on the subject, and to our readers for having occupied so much room, in showing how he may best be rendered useful to many of them. We shall only further add, that any intermediary service that we can render, it will afford us the greatest happiness to undertake.

PART III.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Foreign Notices.*

FRANCE.

"Sir, — I accept with pleasure the proposition which you have made to me, of giving you from time to time some remarks on the state and progress of horticulture in France, and I feel myself much flattered that you think me worthy of assisting you in your ardent and useful work. The success of your attempt to give to a branch of industry hitherto too imperfectly explored, a direction more precise, and an elevation quite new, cannot fail to contribute to the amelioration of society generally; and that amelioration has been and is the constant end of the wishes and the efforts of good men of all ages and of all countries.

It has become a proverb that *Touraine*, that fine province which has so many allurements for your countrymen, is *the Garden of France*. It might be added with more truth, that France is the garden of Europe. What a genial mildness of temperature! What a variety in the seasons! What richness and diversity of produce! What great and admirably disposed geographical advantages in respect to shelter! What a fine climate and what fine harvests! But although *Touraine* sends her *confitures* to all countries, — although the fleets of *Isère* convey the fruits of its fertile valleys as far as the shores of America*; although *Normandy* so often regales *the Great Isle* with its vessels loaded with apples; although *Burgundy* now prides herself in seeing her grapes ripen in the climate of *New Holland*†; how far short we come both to ourselves and to others of improving the bounties of nature! The less they cost us the less care do we take of them! The walnut and the olive, the orange and the grape, come voluntarily to be placed upon our tables. Hardly has spring relieved the blossoms which were ready to burst forth, than the cherry, the gooseberry, and the strawberry redden in our sight: the snow still covers the mountains, and yet tender and delicate herbs are already strewed on the plain. Winter approaches; it besets our metropolis! In *Provence* the last rays of an autumnal sun ripen there herbs and fruits, the late enjoyment of which is not less agreeable than that of the earliest productions of spring; and the violet of *Montpellier* crowns the banquet-cup, which we can still fill like you with excellent beer, if we have not, like you, the taste of giving the preference to *Champagne*.

It is, therefore, only necessary to put in action so many elements of prosperity; and to do this, nothing is wanting but the will. It is to this that I

* Every year cargoes of fruit grown in the vale of *Gresivaudan*, are sent from *Grenoble* to the United States.

† Wine has been drank at *Port Jackson*, made there from grapes grown on plants sent from *Burgundy*.

cheerfully devote the remainder of my life. It must be confessed, that for the last thirty years great obstacles have presented themselves to the simple cares which the earth demands. I shall not retrace the sad picture of the past, — alike by the beaters and the beaten, the statues of Flora and Pomona were quickly thrown down, and substituted by that of Bellona. The Germans have encamped in my garden. I have encamped in the gardens of the Germans; and it was with sword in hand that I visited the botanical collections of Schönbrunn (Vienna); Schauenburg, (near Minden); Stuttgart, and Petrowskoi (Moscow). I have said of others, as they have said of me, *Barbarus per segetes!* It had doubtless been better for both parties to have staid at home and planted their cabbages. We are returned there, and the rising taste for gardening becomes one of the most agreeable guarantees of the repose of the world.

But man needs examples, precepts, and stimulants; and his natural weakness is such, that even in the road which conducts him to his happiness he requires to be supported and encouraged. In the great political period which has preceded our restoration, a woman placed herself at the head of France; the graces much more than power attracted arts around her, and Malmaison was created. Berthauer designed the gardens, Bonpland formed the collection, and directed its culture, and Redouté lent his pencil to aid in its description; these names will give some idea of the horticultural miracles which were performed at Malmaison in three years. All has disappeared; — to the pomp of exotic vegetation has succeeded the pomp of funerals, and of that, which Racine would have called *the reign of a moment*, there remains no more than an obscure monument in a village church. But let us accept of the happy presages of Villeneuve, L'Etang, and Rosin.* These promise to throw a new lustre round agriculture and botany. I hope to recount to you in detail the labours which a taste for these arts has already executed; and I shall not forget the Escalero (staircase) of St. Cloud covered with peaceable laurels, placed there for the amusement of the royal child.

Amongst the private gentlemen who have devoted their leisure to horticulture, Mr. Doublat of the Vosges, Mr. Boursault of Paris, and the Baron de Papenheim near Fromont, may be mentioned as among the most zealous of these latter times. Mr. Doublat has formed, on a mountain, near Epinal, a garden open to the public, which combines extensive distant prospects of a bold and wild country, with home scenery enriched with the choicest exotic trees, shrubs, and plants. The Baron de Papenheim had succeeded in forming on his estate of Combe-la-Ville a collection of more than 4000 species of hardy plants, of which he was going to print a very interesting catalogue, when he was lost to botany. This excellent man persevered in making essays on the acclimating of plants, some of which have succeeded. As to Mr. Boursault, he is as well known at London as at Paris, by his enlightened taste, and the magnificence of his collection. It is in his garden alone that the *Telopea speciosissima* has been seen in France. The *Laurus cinnamomum*, cinnamon tree; the *Garcinia mangostana*, and the *Ardisia paniculata*, have produced with him flowers and fruits. He possesses, without doubt, the finest *Araucaria excelsa*, Brazilian pine, of Europe. The large plants of *Magnolia grandiflora*, which border his walks, bring their seeds to perfect maturity; he is almost the only man who has a taste for rare plants. Commerce is greatly indebted to him; and all Paris knows, that in a fête which he gave last winter, all the ladies received, on entering the saloon, a nosegay, composed of different sorts of camellia. Doubtless every person cannot display such botanical rarities. But we have

* Seats of Madame la Dauphine, and of Madame la Duchesse de Berry.

our *marché aux fleurs* (flower-market), where, twice a week, our gardeners come and display for sale, by the break of day, the most brilliant products of their industry. I am not aware that similar establishments exist in London. It is not easy to form an idea of the quantity displayed in this market; on certain days there is hardly room to contain them. However, the whole is sold in the course of the morning, and towards evening the laborious gardener returns cheerfully home, without troubling himself with the fate of his flowers, the most part of which fade at our fêtes, and some also die on our monuments at *Père la Chaise*. Accept, Sir, the assurance of my esteem and my regard,

"Le Chevalier SOULANGE BODIN."

*40 Jardin de Fromont, près Paris,
Novembre 29. 1826.*

GERMANY.

Panicum Germanicum (fig. 62.)—
"Sir, in the notice you have given (in vol. i. p. 82.) of the different kinds of millet cultivated in Germany, I observe that you have omitted to mention the *möhar*, or German millet, *Panicum Germanicum*; I therefore offer to your consideration the following observations to supply that omission. As the plant in question has been sometimes confounded with another, the *Panicum Italicum*, permit me first to state the specific characters of distinction:

"*Panicum germanicum*: (fig. 62.)—
Spike compound close; spikelets (a) glomerate, involucrets (b), bristle-shaped, longer than the flower; rachis (c), hirsute. (Linn. Spec. 83.)

"The *Panicum Italicum* is distinguished from this in having the spike interrupted at the base by several interspersed clusters of florets, the involucrets are shorter, and the rachis is tomentose, and not hirsute, as in the *Panicum Germanicum*.

"I have known the *Panicum Germanicum* as a millet, and cultivated it with other species of the like habits in a general botanical collection of the gramina, but I was not aware that it had ever been cultivated for any other purpose, until I was informed of the fact by Sir Thomas Tyrwhitt; and it

is to that gentleman I am indebted for the following information on the properties of the *Panicum Germanicum*, and the engraving (from which *fig. 62.* is taken) of the plant which accompanies these remarks. Count Malabaila, President of the Royal Board of Agriculture in Bohemia, states that the German millet is cultivated in the German dominions of Austria, as well as in Hungary and in the Bannat, where it obtained the provincial appellation of *Möhar*. The plant is an annual, and often attains to the height of four feet, according to the soil. It delights in a light moorish soil. It is sown in the spring, at the rate of about one and a half peck per acre, and slightly harrowed in. It is cut either for green food or to be made into hay. The hay is found to be so nourishing, that in Hungary the horses, when fed with it, are reduced to almost half their usual allowance of oats; and in winter oxen are entirely fattened with it.

Professor Shoenburn, of Pest, in Hungary, likewise bears testimony to the value of *möhar*; he says that all farmers assert it to be very nutritious and an excellent fodder. He remarks, that it grows best in a light humid soil, and that it will grow luxuriantly even in boggy soils, after they have been drained.

Möhar has been tried on Dartmoor, and found to succeed so well as to perfect seed; and as it appears to grow and come to maturity with unusual quickness, and that when cut it is made into hay with very little loss of labour or of time, these circumstances hold out strong inducements to make trial of the seed on such farms, in the northern parts of the kingdom, as are subject to a scarcity of fodder in winter.

Sir Thomas Tyrwhitt has sent for seed of the *möhar* from Germany, in order that a fair trial may be given to the plant in the ensuing spring on soils adapted to its culture and situations where its properties will be duly appreciated. I am, dear Sir, &c. G. SINCLAIR.

New Cross, Surrey, Jan. 1827.

As Mr. Sinclair will probably receive a portion of the seed from Sir Thomas Tyrwhitt, whose paper on the subject in the Communications to the Board of Agriculture will be recollected by some of our readers, such of them as wish to give it a trial may write to New Cross, or to their seedsmen to apply there. — *Cond.*

SWITZERLAND.

Botanic Garden at Basle. — On the 7th of September I visited the Botanic Garden at Basle, on the Rhine, where I noticed a fine plant of the *Mimosa catechu* and *Stapelia planiflora*, in bloom, unprotected. Altogether the garden is of limited dimensions: there is a small pond with aquatic plants; from its centre issued a *jet-d'eau*, and it was surrounded with rock work covered with alpine plants. What I thought most worthy of remark was the *Arundo donax*, fifteen feet high, and two fine specimens of *Cactus heptagonus*, one in flower fourteen feet high. They stood as sentinels at the entrance, and had always been exposed. J. M.

Jan. 23. 1827.

ITALY.

Manuring the Vine with the Shoots pruned from it, has been found very advantageous by G. Ramello, an Italian cultivator. There can be no doubt that the best manure for every plant is the mould produced by decayed plants of its own kind; for no other mould can contain its constituent ingredients in such nicely adjusted proportions. Some plants, and especially those of domestic culture, will attain great vigour when supplied with powerful animal manures; but by such manures other plants are killed.

There is perhaps no plant susceptible of culture, that will not grow in the earth of plants of its own kind, or that might not be supplied with plants of its own kind in the form of liquid manure. It might be worth while trying what could be done with florists' flowers, bulbs, heaths, &c. by such treatment.

A Marriage Tree, generally of the pine kind, is planted in the church-yard by every new married couple in the parish of Varallo Pombio, in the Tyrol; a fine grove of pines is said to shade this church-yard, and it must be recollected that the pine of the Tyrol claims to be ranked as a fruit-tree, as well as a valuable timber, being the *Pinus pinea*, the kernels of the cones of which are frequently served up in the dessert in Italy and the southern Alps, as almonds and nuts are in England. (*Bibliot. Ital.*, Sept. 1826. p. 435.)

HOLLAND AND THE NETHERLANDS.

Training en quenouille. — This mode of training standard pear-trees is very generally adopted in private gardens in the Netherlands, and its advantages, as respects the saving of room and avoiding injurious shade to the vegetables near, are obvious. Its expediency, however, considered with reference to the produce of fruit, is not so clear. Occasionally, a few trees are seen bearing a pretty fair crop, but in general they seem much less prolific of pears than of superfluous shoots, demanding the knife of the pruner, and thus confirming Mr. Knight's remark as to the constant effort required to impose on any tree a form different from its natural one. (*Note of a Friend.*)

Trees, Hedges. — The trite remark, that a people generally attain something like perfection in those matters to which they have long directed their attention, is exemplified in the very different management of trees in public walks, and of quickwood hedges, in the Netherlands. The hornbeam hedges are well trained, though often clipped so thin as not to form a very substantial fence; but quickwood hedges, which have only recently been adopted here and there, are very injudiciously managed. Small weak plants are originally planted, and afterwards trained to trellis-work at a great expense; the necessity of cutting them down after a year or two's growth, in order to have strong and vigorous shoots, seeming unknown; so that the fence, after many years, is still weak and straggling. On the other hand, the Belgians, like the Dutch, manage their plantations of trees for public walks, whether elms or limes, admirably. They always plant them of a considerable size, from eight to ten feet high, and two to three inches in diameter, having been so ordered, by previous transplanting or digging round them in the nursery, as to have an abundant mass of roots. When planted out, they cut off the head, leaving them bare poles, or with only a few twigs, thus at once ensuring the future vigorous growth of the tree, and dispensing with all need of stakes. After suffering them to grow untouched one or two years, all the branches are cut off below the strongest leading shoot, left to form the head of the future tree, which in a few years becomes as straight and handsome as one not headed, and far more vigorous. In cases where it is impracticable to plant trees in their intended site at the proper season, they are transplanted in autumn in hampers of earth (as is sometimes practised in England with fruit-trees,) and these hampers are then sunk in trenches in the nursery, the tops of the trees being cut off as in ordinary planting. When it is wished in the ensuing summer to transfer the trees thus treated, to the place where they are to remain, each is transplanted along with its hamper into its destined hole, and can thus be safely removed, however hot the weather, without experiencing any check. In this way I saw about one hundred lime-trees, six to eight feet high, and about two inches in diameter, planted on some ground adjoining the new

stables of the Prince of Orange at Brussels, the latter end of June, 1826 ; and these trees, though, as far as I know, not watered, never flagged during the subsequent period of intensely hot weather. At the time of transplanting, their tops had made several strong shoots, and the points of the roots of many of them protruded through the interstices of the sides of the hampers. Nothing farther was done than making each hole about twice the size of the hamper, and filling the space surrounding it with good loamy soil. (*Ibid.*)

Grass-banks.—When the Belgians, who have little access to turf, wish steep banks to be covered with grass, they first form them of earth, made into a sort of stiff mortar, and cut to the requisite slope, and then cover the surface with good rich soil, mixed up into a plaister with water and grass seeds, which soon spring up and cover the whole with verdure. (*Ibid.*)

Horticultural Fancies.—The Belgians have a fanciful sort of flower-pot, resembling a miniature ruin, with an adjoining stump of a tree, in both which various cavities are left for the reception of succulent plants requiring little earth. In such a pot you see an aloe, a cactus, and two or three sorts of mesembryanthemum, not indeed always flourishing, but at least growing, and occupying little space ; and though the idea is not, perhaps, in very good taste, yet it is one of those nicknacks in which citizen-florists may be allowed to indulge themselves. The curious sometimes leads to the useful, and a genuine love of plants may be often first excited, in some breasts, by the wonderment caused by one of these grotesque flower-pots, or a hedgehog of crocuses. In the same class of horticultural fancies may be noticed the small pear-shaped gourds, half green, half yellow, with longitudinal streaks of white, converging at the base and apex, which are sold in the markets of Brussels for chimney-piece ornaments. These pale streaks are caused by arranging pieces of narrow tape on the gourds, so as to exclude from the influence of the light the parts wished to be white. (*Ibid.*)

NORTH AMERICA.

Vegetation of North America.—Some extracts from the letters of the botanists, Drummond and Douglas, are given in the January Number of Dr. Brewster's very excellent Journal, of a gratifying and entertaining nature, from which we have made a few extracts. It is highly interesting to mark the ardour and industry of these young men in the prosecution of their object. Mr. Drummond thanks Dr. Hooker "for being the means of affording him an opportunity of exploring scenes so congenial to his inclination ;" a feeling with which we can very readily sympathise ; and Mr. Douglas, though he had hurt his knee, and his eyes had become so dim that he could hardly use his gun, yet incessantly occupied himself, not only in collecting specimens and seeds of plants, but birds, insects, and every object of natural history. He finds time also to cook his own food, and render occasional service to the natives ; at Oak Point he met a chief, a fine old man, who was desirous of the luxury of being shaved, and this service Mr. Douglas very kindly performed, and was repaid by Tha-a-mux-ci's company "all along the coast, and 60 miles up the Cheecheelin river." Mr. Douglas says nothing of the female Indians, but we have no doubt he will bestow a certain share of attention upon them ; indeed, a young man in his situation ought not only to attend to his professional pursuits as the main object, but ought also to lay in a stock of moral and miscellaneous adventures to reflect upon in future days of ease and retirement at home. (*Brewster's Edin. Journ. Jan. 1827, p. 116.*)

Botanical Associations.—Dr. Clarke, in his Travels, mentions, that when botanising in the neighbourhood of Moscow, the idea of home and all its endearments was recalled by finding certain plants common there which

were also common in the neighbourhood of London. Speaking of the neighbourhood of Fort George, Mr. Scouler states, "We saw plenty of *Menziesia ferruginea*, but not yet in flower; we found various species of *Trillium* and *Smilacina*; but no plant we found gave us more pleasure than the *Hookeria lucens*, not only on account of its beauty, but as it brought to mind our distinguished botanical preceptor, to whose instructions we had been so much indebted. (*Brewster's Journ. No. XI. p. 57.*)

Vegetation round New York. — Extract of a letter from Mr. Drummond, a botanist, engaged in the N. American expedition under Captain Franklin. "On landing at New York, I was first struck by the novel appearance of the trees growing about the city, such as *Platanus occidentalis*, and *Catalpa syringifolia*, with their curious seed vessels. The forests near New York consist mostly of oaks and deciduous trees. The public roads are lined by poplars and willows, probably introduced, (*i. e.* not natives,) but attaining a very large size. In the shade of the forests, I observed the two umbellate species of *Wintergreen*, very common, *Mitchella repens*, &c., in the marshes, *Pothos foetida*, at that time in flower, with vestiges of numerous grasses and herbaceous plants new to me. The swamps were covered by *Juniperus Virginiana*, and the *Sarracenia purpurea* was common, growing amongst the *Sphagni*. The pine barrens are covered by *Pinus resinosa*, and the remains of numerous interesting herbaceous plants. There was little variation in the general appearance of the country, until we reached lakes Huron and Superior, where it becomes more mountainous, but the rocks appear very bare. (*Brewster's Journ. No. XI. p. 110.*)

Edible Plants of the N. American Indians. — There are probably very few vegetables, the succulent parts of which might not be eaten and afford nourishment, in times of scarcity. In the neighbourhood of Fort-George, Mr. Scouler "met a number of Indians in the woods, chiefly women, and children, who were employed in collecting vegetables, as the young shoots of different species of *Rubus* and *Rosa*, and, above all, the tender shoots of the horse-tail, *Equisetum arvense*, which attains a large size, and is much esteemed by the Indians. (*Brewster's Journ. No. XI. p. 57.*) The roots of *Phalangium esculentum* are much used by them as a substitute for bread; while the tubers of a species of *Sagittaria*, which grows on the marshy banks of the river, affords an agreeable substitute for potatoes. (*Ibid. p. 60.*)

New species of Pinus. — Mr. Douglas writes: "I rejoice to tell you of a new species of *Pinus*, the most princely of the genus, and probably the finest specimen of American vegetation. It attains the enormous size of from 170 to 220 feet in height, and from 20 to 50 in circumference. The cones are from 12 to 18 inches long! I have one which is $16\frac{1}{2}$ inches in length, and which measures 10 inches round the thickest part. The trunk is remarkably straight, and destitute of branches till within a short space of the top, which forms a perfect umbel. The wood is of fine quality, and yields a large portion of resin. Growing trees of this species, that have been partly burned by the natives, to save the trouble of cutting other fuel, (a custom to which they are greatly addicted,) produce a substance which, I am almost afraid to say, is sugar; but as some of it, with the cones, will soon reach England, its real nature can be easily and correctly ascertained. The tree grows abundantly 20° south of Columbia, in the country inhabited by the Umptqun tribe of Indians. The seeds are gathered by the natives in autumn, pounded and baked into a sort of cake, which is considered a luxury. The saccharine substance is used in seasoning dishes, in the same manner as sugar is in civilised countries. I shall bring home such an assemblage of specimens of this *Pinus*, as will admit of a very correct figure being made, and also a bag of its seeds." (*Brewster's Journ. No. XI. p. 114.*)

AUSTRALASIA.

New South Wales. — The cultivation of sugar appears to make a rapid progress in this colony. Two vessels laden with sugars of the new crop sailed for England in June last. Other improvements of the settlement are still in progress. Mr. John Macarthur has been indefatigable in bringing forward improvements in agriculture, and particularly the wools of the colony. 175,000 acres of land on this side the mountains are to be measured forthwith, and appropriated as a glebe to the Australian Church. This quantity is independent of the grant, for the like use, over the mountains. 500,000 acres also, at Van Dieman's Land, are destined to become the property of the Church. An order was made by Sir Thomas Brisbane, previous to his departure, for the appropriation of 20,000 acres of land to the use of the Wesleyan Missionaries, who are employed in the conversion of the aboriginal natives of this country. In mentioning the improvement of these distant colonies, we should undoubtedly notice the advance in politeness. The Van Dieman's Land papers state, that the female convicts lately landed "are quite of a superior class of society," and pass many compliments on their personal appearance and accomplishments. (*Brit. Farm. Chron.*)

ART. II. — Domestic Notices.

ENGLAND.

The Botanical and Horticultural Society of Durham, Northumberland, and Newcastle-upon-Tyne, was founded in 1824. "The principal and ultimate object of this Society, when sufficient funds can be obtained, is the possession of a garden for a botanical collection and arrangement of plants; and for experiments on the cultivation of fruits and vegetables, including flowers; also to promote and improve, by every other proper means, the same objects: for these purposes prize medals, or other premiums, shall be awarded annually, to such persons as shall be declared, by proper judges, to be entitled to the preference." It "consists of four classes of members, three of ordinary, (at 1*l.* 1*s.*, 10*s.* 6*d.* and 5*s.* per annum,) and one of honorary and corresponding members." We alluded to the prizes given in 1825 and 1826 in last Number, and the secretaries, Messrs. Falla, jun. and Lambert, have since sent us a copy of the laws, reports, &c. and a specimen of their (very handsome) silver medal. We observe that the London Horticultural Society have presented the Newcastle Society with their large silver medal, to be given to the member who best merits such a mark of distinction, and promised a continuation, as in the Dumfries Society, annually; a proceeding which we think in the true spirit of the duty of the parent society. This medal for the year 1826 has been given to Mr. Thomas Smith, gardener to Matthew Bell, Esq. for his exhibition of gooseberries, apricots, plums, apples, and strawberries. Our correspondent, Mr. George Gledston, of Netherwitton, (p. 157.) on the 24th of August, exhibited and received a medal for a winter melon of the following extraordinary dimensions: — "Length from the stalk round the crown end, five feet nine inches; girth, five feet five inches; and weighing seventeen pounds and a half. It was beautifully and very regularly formed and netted, and was allowed, by every one who saw it, to be the finest ever seen in the neighbourhood." Mr. G. also received medals for celery, and the best pine apple. In 1825 Mr. Stephen Maughan

received a premium of three guineas, as "the gardener of first-rate abilities who had remained longest in his situation," he having been gardener to Morton John Davison, Esq., and that gentleman's father for a period of forty-five years. It is highly gratifying to record instances of this sort, which reflect credit both on master and servant, and must of itself be a distinct source of happiness to both. At one time it might certainly be said, that a gardener situated in a remote part of the country, who remained twenty or thirty years in the same situation, had little chance of keeping pace with the progress of improvement. But this is much less the case at the present time than at any former period, in consequence of the establishment of local societies, and the general circulation of the *Gardener's Magazine*. We hope to be able to add also, in consequence of the general establishment of garden libraries. By means of the latter, and of the *Gardener's Magazine*, a gardener who has been properly instructed in his profession during youth, may keep up his knowledge with the progress of the age, however remote he may be situated. But even if there were no *Gardener's Magazine* or local Horticultural Society, it could never be expedient for a gardener at the head of his profession to change his situation, in order to increase his knowledge or experience; and here we observe with pleasure the just discrimination of the Newcastle Committee in making it a condition that the candidates for this premium should be of "first-rate abilities." A dolt, with an easy, indifferent, or absent master, might otherwise have obtained the honour.

A volume of communications is intended to be published by the Society in August next; we have little doubt they will soon be able to establish a garden, and, on the whole, we think this institution likely to become one of the most prosperous and useful of provincial societies. We hope one object of their garden will be a conspicuously named collection of hardy trees, shrubs, and herbaceous plants, arranged according to the natural system; and next a collection of hardy standard fruit trees. These will tend greatly to promote a taste both for botany and gardening.

The Establishment of a Florist and Horticultural Society at Whitehaven is in contemplation. The neighbouring county of Lancaster has long been distinguished by many societies of this kind, and the progress of useful and ornamental garden cultivation has, in that county, been comparatively great. Attempts were formerly made to carry a purpose like the present into effect, but without success. We trust, however, that the lovers of horticulture in this town and its vicinity will now feel themselves called upon to unite with cordiality in endeavouring to obtain the object in view, as there can be no doubt that the stimulus to exertion given, and the rivalry created by such a society, would tend, not only to increase the enjoyments of the amateur, but the knowledge and skill of the practical man, and, consequently, the harmless luxuries of his employer. It would argue more than common apathy in any one who is fond of gardening to neglect such an opportunity of increasing his knowledge of the subject at an easy rate, and we could find no excuse for the practical gardener who failed to promote, by every means in his power, what must lead, not only to his individual advantage, but to that of the delightful art he professes.—(*Cumberland Pacquet*, December 12.)—We are informed, that our indefatigable correspondent, Mr. Saul, of Lancaster, has been in some degree the means of originating this Society.

Some Seedling Camellias are now (Feb. 1.) in bloom in the Comte de Vande's Garden at Bayswater, not much more than eighteen months from the seed pod, and one seedling has bloomed there within the year. The way in which this is accomplished, is by grafting the shoot made by the seedling as soon as it is a few inches long, on the branches of a full grown flowering plant. The occasional adoption of this practice by nurserymen and gardeners

of the present day, is a gratifying proof of the spread of physiological knowledge. For this knowledge we are almost entirely indebted to Mr. Knight; for though vegetable physiology was nearly as far advanced in the closets of philosophers in the time of Duhamel, as it is now, yet it is to Mr. Knight that we owe its confirmation by additional experiments, and its application to practice. — Some very large blossoms of Camellias were sent us by Mr. Donald, of Woking, in the third week of December.

Samples of Horticultural and Agricultural Seeds were exhibited at the Smithfield Cattle Show, on the 15th of December, by Mess. Cormack, Son, and Sinclair; among the latter were some beautiful seeds of the permanent pasture grasses and clovers for which they are so celebrated; also some remarkably fine roots of the most approved sorts of turnips, namely, Swedish, both the purple topt and yellow varieties, white globe, red round, stone or stubble, and green round, being the only specimens exhibited there this season in the seed and root department. The roots of red mangold wurzel, and of the golden, or French variety, were remarkably large and of a fine shape. In saving seed from superior varieties of cultivated vegetables, in order to improve the value of the plant or root, or to keep up the maximum of value which the root or plant may have obtained, the principles of form or shape are of more importance than mere bulk; for the analogy between animals and vegetables as regards this important point, that of reproduction, is found to be very great.

Tarpaulins, and other goods in their line required by the farmer, were exhibited by Messrs. Edgington. Messrs. Deacon and Orchard also exhibited similar articles. Mr. Cherry's horse-pads, for defending tender feet in horses, were again much looked after and approved; and Mr. Webb, a veteran in the service, attended with his American fluid, and other veterinary articles. — (*A Correspondent who was present.*)

Mildness of the Winter. — Ripe strawberries were pulled from the natural ground, without any artificial heat, on January 1. in the neighbourhood of Knaresborough, (*Farm. Journ.*) A plateful of ripe strawberries was gathered from the garden of Mr. Smith of Hampton in Arden, Warwickshire, in the second week of December; and an apple tree in the same neighbourhood was in full blossom at the same time. (*C. F. W.*)

Extreme Cold during Night for 1826. — The following are the averages for the last year, as indicated by a self-registering thermometer, kept by Mr. Sinclair, at New Cross, Surrey. January 30°, February 38°, March 38°, April 40°, May 31°, June 55°, July 56°, August 58°, September 52°, October 48°, November 39°, December 41°. Coldest nights in the year, January 15th, 15°, and 16th, 15°; second coldest January 14th, 16°. Mr. S., who sent us the details at length for every night in the year, observes, that "dry and tedious as such a register may seem, when fully considered and investigated, it will account for appearances on vegetation, which the observations made during day are quite incompetent to explain. We retire to bed with our thermometer at 40°, and again, by the first peep of dawn, find it at 39°, perhaps higher; yet when we go out we find various plants frost bitten, if not entirely destroyed by frost." *G. S.*

Mangold Wurzel. — "I have a field of mangold wurzel which has produced from sixty-eight to one hundred and seven tons per English acre, tops included. Above one-fourth less when the tops are deducted. The average of the field was sixty-eight tons; of the best acre eighty-five and a half tons; and of the best patch of ten yards square, at the rate of one hundred and seven one-third tons per acre. I believe this to be the best crop ever raised in England." Extract of a letter from Mr. John Brackenbridge, the Land Steward of Mr. Stanhope, of Cannon-Hall, Yorkshire, to

his brother, the schoolmaster at Dalzell. (*Dumfr. Cour.*)—At the Autumnal Meeting of the Breconshire Agricultural Society, the Rev. Canon Williams produced a root of mangold wurzel, grown upon his own land, which weighed fifteen pounds, and measured twenty-one inches in girth, and upwards of four feet in length, including the leaves; and so convinced was he of the importance of this vegetable as an article of husbandry, that he offered a premium for its cultivation. (*Farm. Jour.*)

Extraordinary Increase of a single Potatoe.—In 1825, a farmer, at Ticehurst, Sussex, grew a potatoe that weighed five pounds and a half. At the proper season of the following year, the said potatoe was planted, and its produce, on being carefully dug up, measured *four bushels and a half*. (*Brit. Farm. Chron. Feb. 5.*)

A Quantity of very fine new Potatoes was found on the 23d ult. on removing a heap of rags belonging to a gentleman in Ulverston, that had been laying some time without being disturbed. He intends to raise *mushrooms* by the same means. (*West. Adv. February 3.*)

To improve the Size and Health of Hyacinths.—Immerse an ounce phial, filled with oxygen air, in the glass where the hyacinth grows, with its mouth downwards. (*Newsp.*)

Granadilla.—"To the proprietors of small gardens, it may be interesting to know that the *Passiflora edulis* (*fig. 65.*) will ripen its fruit well in a

common green-house. A plant trained up the end sashes, or, up or down one or two of the rafters, will produce a considerable quantity of fruit. I have a good crop every year; they are scarcely any trouble, and make a good variety in the dessert at this season. The specimens I send were injured in gathering. Some people prefer them with a little sugar." *A. B.*

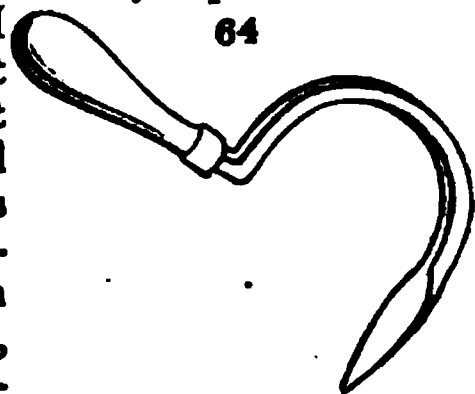
The fruit sent were larger than damson plums (*a*,—full-size); the pulp yellow with dark coloured seeds, and the flavour peculiar, but very agreeable. *Cond.*

Increase of Carnations by Seed.—There are now growing in Mr. Saul's garden Hermitage, near Lancaster, forty excellent plants, raised from one pod, making a compact line of plants one hundred and eighty inches long by six inches broad. The pod was taken from a pink flake (*General Elliott*) in September, 1825.—(*S. Jan 3.*)

Models of Estates.—Upwards of twenty years ago we attempted something of this kind, and an account of the attempt was given in the *Farmer's Magazine*, (vol. vi. p. 126.) Mr. Crowe, of Kensington, has amplified the idea, and not only models extensive territorial surfaces with all their undulations and surface scenery, but copies or creates particular or remarkable landscapes. He excels in the composition of picturesque banks of water,

broken ground, and ruins. We have seen several specimens at his house in Kensington, and we think he might be advantageously employed by gentlemen about to execute pieces of water, cascades, rock-work, and ruins, to form models of what was intended, as guides in the execution of the work. Every one who has had any thing to do in the way of imitations of rude nature on a large scale, knows how difficult it is to convey ideas to workmen by drawings of such scenes. Models like those made by Mr. Crowe would remove every difficulty, and as objects for a private museum, models of remarkable estates, such as Blenheim, or Alton Abbey, or of one's own estates in different parts of the empire, would possess great interest. (*See Part IV.*)

Spanish Hoe. — “Sir, I send you herewith a *Spanish hoe* (*fig. 64.* and see p. 106.), which I do not find mentioned in your *Encyclopædia of Gardening*, and of which I beg your acceptance. I find it a most useful and powerful implement; it is generally made of three sizes, the one sent herewith being the middle size, the larger is used for planting, the smaller for hoeing, and goes nearer to delicate and small plants without injuring them, than any hoe I have met with, and in the hands of a skilful gardener, would, I believe, be a much more efficient tool than any of the present hoes now in use in this country; it is used with a handle about nine inches long, but the largest size with a long handle would, I conceive, be a most admirable and expeditious instrument for hoeing turnips, yellow beet, &c. &c.



“If, on trial, you think as favourably of it as I do, you may, perhaps, indulge your numerous readers with a figure of it in your useful *Magazine*; in the prosecution of which, I wish you every possible success, and remain, Sir, &c. MENTOR.”

“November 20. 1826.”

Cheap and efficacious Manure. — Raise a platform of earth on the headland of a field, eight feet wide, one foot high, and of any length according to the quantity wanted. On this first stratum of earth, lay a thin stratum of lime fresh from the kiln; dissolve or slack this with salt brine from the rose of a watering pot; add immediately another layer of earth, then lime and brine as before, carrying it to any convenient height. In a week it should be turned over, carefully broken, and mixed, so that the whole mass may be thoroughly incorporated. This compost has been used in Ireland; has doubled the crops of potatoes and cabbages, and is said to be far superior to stable dung.

JAMES REED.

Bristol, No. 14. Broad Street, December 13. 1826.

The Uses to which Salt may be applied is a subject which has lately attracted a good deal of attention in the country newspapers, and some of the magazines; the following are extracts:

Extirpating Thistles and other Weeds by Salt. This application of salt has been recently brought into notice by Mr. Sinclair, of New Cross, Surrey, in his notes to Holdich's *Essay on Weeds*, (p. 67.), and in the *Farmer's Journal*, (Dec. 18. 1826.) Having stated in the former publication, that it would destroy thistles, and in the latter, that it is employed to do so, he gives us proofs, by relating the practice of some cultivators in Oxfordshire. The following is the substance of his letter. *Carduus acaulis*, and plants of similar habits of growth, as *Plantago*, *Leontodon*, *Rumex*, &c., are effectually destroyed by the application of a little salt to the crown of the stems, or centre of the spreading leaves, in quantity sufficient to cover the space occupied by a half-crown piece, and at the same time consolidating the salt upon the spot to which it is applied by one pressure of the foot.

In a few days the leaves begin to wither and dry up, and the root is found in a state of decay. This practice has been adopted on the farm of T. B. Evans, jun. Esq., near Enstone, in Oxfordshire, and also by Mr. Harris, of Keddington, in that neighbourhood, Sir Charles Throgmorton, in Gloucestershire, Lord Althorpe, in Northamptonshire, and others. The latter nobleman, who is eminently distinguished both as a scientific agriculturist, and a kind landlord, was the first in England to apply salt with success to the destruction of the common dock.

Application of Salt in Ireland. — In the Irish Farmer's Journal, G. W. Irvine states, that all perennial weeds, the roots of which are not of a creeping nature, may be destroyed by salt; but he thinks the best mode of application would be to cut the plants over as close to the ground as possible, and immediately apply the salt to the green wounds.

"In justice to deceased merit, it may be here mentioned, that the late Mr. Edgeworth, of Edgeworthstown, was, many years ago, in the habit of recommending salt to his tenants, for destroying docks, &c., in the method pointed out by Mr. Sinclair, which, perhaps, was long before the experiment tried on the farms of Viscount Althorpe.

"Salt, in a destroying point of view, is also useful to the gardener. In the bark bed, pines and other tender exotics are frequently much injured by worms getting into the pots; a little salt occasionally strewed at the bottom and around the sides of the pots, will effectually prevent this. Auriculas, polyanthuses, Cape bulbs, &c., which are usually kept during the winter in frames, may also, by this means, be preserved from the injuries of worms and slugs. A strong solution of salt regularly poured over gravelled or paved yards and courts, &c., through the rose of a watering-pot twice or thrice a-year, would destroy the weeds which give so much trouble in picking them out, and which give a place such a desolate appearance when suffered to grow. This I observed some years ago, upon throwing out on a paved yard some pickle, after having steeped seed-wheat in it. I think a much weaker solution of the same might also be useful in preventing worm casts in mown lawns and pastures." (*G. W. I. in Irish Farm. Journ. Jan. 13. 1827.*)

Bishop Watson's Opinion on Salt. — "It has been known to some for ages, though perhaps it is not so well known as it ought to be, that too much salt will for many years absolutely destroy all vegetable life, and ruin the land on which it is laid. Bishop Watson, in an essay on salt, gives us several instances, in which, when any land or town was condemned to be unfruitful or desolate, it was always sprinkled with salt; and he observes, as a remarkable thing, that it is still usual "to raze the houses of rebels and traitors, and to sprinkle the ground on which they stood with salt." He tells us also, that when the soil in Cheshire abounds with rushes and weeds, it is customary to lay a quantity of rock salt upon it, as it is found utterly to destroy every vegetable, and that "some of the African and Arabian deserts are thought to be barren by their having too much salt in them, while many parts of Barbary are reckoned to be peculiarly fruitful, from their containing a less quantity of it." It seems evident, that salt does not nourish vegetation. It only putrifies and makes useful as manure all the dead vegetable matter in the soil. It is not a food for plants, though it prepares more palatable food for them than they would otherwise enjoy. Mr. Parke, in his Chemical Catechism, says of a conversation with Mr. Hollingshead, a great agriculturist, "I was informed, that from one bushel to six bushels to an acre of pasture land, always make such land more productive; but that a large quantity would, for two or three years afterwards, render it actually sterile." Too little salt on dead animals will cause them to putrify, where more will cure; whereas, a little salt will nourish, and even bring to life vermin after supposed death, though a greater quantity will kill them. These are very curious opposite effects on the dead and living animal. (*Newcastle Mag.*)

With reference to the Controversy respecting Salt as a Manure, I find it stated in the History of Renfrew as a curious fact, that a Lord Napier took out a patent for improving lands by sprinkling them with salt, in 1598, — "a project," says the historian, "that does not seem to have succeeded, as it is no more heard of." (*Robertson's Continuation of Crawford's History, 1818. Com. by A. W.*)

The Loquat, Eriobotrya Japonica. — I have been trying some experiments with this fruit-tree, by grafting it on pear, quince, medlar, service, and white thorn stocks. Those on the white thorn flourished beyond all the others; a plant, two years from the time of grafting, planted in a favourable situation, under a rock, and against a mud cottage, has shot upwards of three feet, with every appearance of shortly coming into fruit, which no doubt, if it sets, will ripen in the open air of our climate. (*J. B. Boughton, Mount, Kent.*) — Whoever wishes to try experiments on this fruit, should endeavour to procure scions of the very best varieties, which at present, we believe, are only to be obtained from the garden of the Horticultural Society, or that of Lord Powis. The variety in common cultivation, is supposed to be as inferior to what might be produced, as a crab is to an apple. This remark will apply generally to rare foreign fruits raised in this country from seeds, and it should not be lost sight of by those who attempt the different

granadillas, guavas, mangoes, &c.; if possible, plants of the best varieties should be imported from the countries where they are cultivated. The Loquat is said to be already a garden fruit in Malta.

Absorption of Heat in Hot-houses. — “ Captain Wight, R. N., it is said, proposes to introduce in hot-houses certain dark metallic substances for the purpose of absorbing heat from the rays of the sun, and returning it to the atmosphere of the house.” (*Newsp.*)

The Seeds of the Laburnum, have poisoned eight cows in the neighbourhood of Oswestry. Mr. Beckett, the veterinary surgeon of that town, is of opinion that this poison belongs to the class of narcotics. (*County Chron.*)

Mulberry Plantation at Slough. — “ Dear Sir, I have collected every information I could, and have been to see the grounds. I found the plantation quite in an infant state, situated in a field contiguous to Slough, bounded on the north by the Bath road, about a mile from Salt Hill, and in the parish of Upton-cum-Chalvey. The field contains eighteen acres, fifteen of which are already planted; and, considering the extreme dryness of last season, the trees have made astonishing progress. The soil is a deep hazelly loam, the subsoil chiefly brick earth. Previous to planting, it was trenched from eighteen inches to two feet deep, and manured when planted. The principal trees are standards, in rows fifteen feet by eighteen apart, with dwarfs between, to remain only as long as may be deemed necessary; the space between is at present occupied as a nursery for young trees, principally from Italy, and chiefly from seed. They appear to be from three to four years old, and were cut down to within an eye or two of the ground last spring. They have since made shoots from eighteen inches to four feet high. Those intended for standards will again be cut down this spring, which will cause them to shoot vigorously and produce fine stems. Afterwards, they will be treated as other standard fruit-trees. Amongst those from seed, there is a great diversity in the leaves; this part of the plant being the grand object, the plants producing the largest leaves are selected, and marked in the summer; the others are used for stocks on which to graft the larger leaved sorts in the spring.

Should the company succeed according to expectation, they intend building a manufactory on the spot, and by their stock of young trees, I think their views must extend beyond this very limited spot of ground.

Windsor, Jan. 16. 1827.

A CORRESPONDENT.

Some curious and interesting Experiments on the Smut in Wheat, have been made during the last two years by Dr. Pew, a highly respectable physician of Sherborne, in Dorsetshire. In a glass of rain water were put fifty smut balls, which, on the tenth day, exhibited an immense multitude of minute animalcula, which, on examination with a microscope, proved to be of two kinds; eel-like insects, and very minute creatures destined to be the food of the former. The eel-like insects amounted to about thirty, the minute animalcula to several millions. In the course of a month, Dr. P. witnessed three or four generations of the eel-like insects, and the others were continually regenerating; but some cold nights about the middle of October, induced torpor, and finally death, to both kinds. “ From this last circumstance, the Doctor concludes, that severe winters, attended with much frost and much snow lying long on the ground, must be the most effectual preventive of smut for a time, sensible as these creatures appear to be of cold. It seems also, that if old wheat be sown, even though infected with smut balls, little or no smut may be produced; which is accounted for on the same principle that the eggs of hens and other birds become addled by long keeping, so those of the smut animalcula fail to hatch. The Doctor finds that the very soil, at length, becomes infected with the smut balls, and that though pure and clean wheat be sown, smut on these lands will be produced.

He proves also, that lime, used hot from the kilns, in great quantities, viz. two hundred or three hundred bushels per acre, effectually destroys the infection, and frees the land from smut." (*Com. by D.*)

Botanic Garden, Bury St. Edmund's. — "In the year 1820 three acres of ground were occupied for the purpose of establishing an ornamental and scientific garden for the recreation and amusement of the inhabitants of the town and neighbourhood, who might become subscribers at two guineas per annum, the proprietor allowing the curator to dispose of such superfluous plants as could be spared from the collection, to be purchased (by subscribers only) at a moderate price, for the benefit of the establishment; and as the garden has now arrived at no inconsiderable degree of perfection, it has been found expedient to add two additional acres of meadow land for the cultivation of ornamental trees and shrubs; there are also spacious grass walks and rustic seats on the margin of the river Lark, which incloses the east end of the pleasure-grounds. The upper part of the garden is chiefly devoted to the cultivation of the more ornamental and showy plants on the borders, the quarters being laid out in long narrow beds, containing the classes and orders of the Linnean arrangement. Climbing plants and shrubs ornament the walls inclosing two thirds of the garden. The grounds are on a gentle declivity to the ancient vineyard of the Abbey, divided only by the river, which is accessible to the subscribers by crossing a rustic Swiss bridge. The salubrity of the air, for which the neighbourhood is proverbial, has been found highly beneficial for the cultivation of many of the more rare herbaceous and alpine plants; it may also be proper to observe, that the summer of 1826 has proved particularly favourable in ripening seeds of many tender exotics in the open ground, and which it is presumed will ultimately become sufficiently acclimated to withstand the vicissitudes of our climate. In order to encourage a taste for botany and horticulture, information is always solicited and as freely given. The terms of subscription is also reduced to one guinea per annum for families residing beyond ten miles from the garden, and strangers are admitted by printed tickets upon application to a subscriber. I hope at a future period to send you a plan of the garden and pleasure-ground for the information of the readers of your interesting and useful publication, and I am, Sir, &c.

"*Chapel House, Bury St. Edmund's,*

N.S. HODSON."

Nov. 18. 1826."

Bones as Manure. — Sir, Among your Domestic Notices (vol. 1. p. 333. it is observed, that mills for grinding bones have been *lately* erected in Lincolnshire. I take the liberty of remarking, that bones have been long used in that county for manure; and that nearly thirty years ago a steam-engine was employed for crushing them at Brotherless, near Boston, by the late excellent Major Cartwright, who, to his other accomplishments, added great knowledge of agriculture, and whose various improvements in that branch of science are recorded by Mr. Arthur Young, in his Survey of Lincolnshire, published in 1799. Wishing you every possible success in your laudable endeavours to circulate information, and to promote cultivation, both in the natural and moral world, I remain, Sir, &c.

"*The Neighbourhood of Portman Square,*

A CONSTANT READER."

Jan. 15. 1827."

SCOTLAND.

Caledonian Horticultural Society. — At a Committee Meeting, held in October last, the following seedling apples, raised at Coul by Sir G. S. Mackenzie, was examined. No. 1., called the Tarvey Codlin (cross between the Manks codlin and nonpareil) was considered a very good and

well-flavoured apple, but soft in the pulp. No. 2., the Kinellan, a beautiful fruit, of the same parentage, was regarded as more juicy, but not so highly flavoured as No. 1. No. 3., the Contin Rennet, considerably resembling the nonpareil, and altogether an excellent apple. No. 4., Coul Blush Apple, a pretty fruit, but the specimens had been too long on the tree, and it was considered as not likely to prove a good keeper. Upon the whole, the Committee were of opinion, that all these four seedlings are well deserving of cultivation, and directed the secretary to request of Sir George Mackenzie to favour the Society with grafts for the Experimental Garden at Inverleith; but they particularly recommended Nos. 1. and 3. (the Tarvey Codlin and Contin Rennet) as two of the finest seedlings that have yet been submitted to them. They recommended that the Society's honorary silver medal be presented to Sir George Stuart Mackenzie, Bart. for these meritorious productions, and this recommendation was unanimously approved of by the General Meeting of the Society in December.

The Caledonian Horticultural Society, at their General Meeting, in December last, awarded the following prizes:—

For the best Six Sorts of Apples, lately introduced and not generally known in Scotland, and which have been found to ripen well on standards or espaliers, to Mr. William Oliver, gardener to the Earl of Rosslyn, Dysart House.

For the greatest Variety of good Orchard Apples, two of each, with their names, to Mr. Archibald Reid, gardener to the Hon. Robert Lindsay, of Balcarras.

For Four Seedling Apples of high promise, to Mr. Alex. Wilson, gardener at Ladykirk House, near Coldstream.

For a Collection of excellent Wall Pears, including several fine kinds, not generally cultivated in Scotland, particularly the Winter Beurré, Passe Colmar, Pastourelle, and Monsieur Jean, to Mr. James Smith, gardener to the Earl of Hopetoun, Hopetoun House.

For the best Three Bunches of Retarded Grapes, &c., (White Muscat of Alexandria and Black Hamburg,) to Mr. Daniel Sinclair, gardener to James Donaldson, Esq. Broughton Hall.

For several Bunches of the Black Hamburg Grape, in good condition, sweet, and of high flavour, the produce of vines trained on the rafters outside the sashes of one of the glazed houses in Dalkeith garden, to Mr. James Macdonald, gardener to his Grace the Duke of Buccleuch, with a request that Mr. Macdonald would communicate to the Society an account of this useful practice.

For several large Bunches of the Tripoli Grape, in good condition, to Mr. James Ross, gardener to Robert Dewar, Esq. of Muirbank, near Glasgow.

For large and fine Specimens of the Pear Quince, from trees imported from Holland, to Mr. James Arklie, gardener to William Grant, Esq. of Congalton.

For an excellent Queen Pine Apple, produced in a hot-bed frame, without any fire-heat, to Mr. Alex. Bisset, gardener to Colonel Smith, of Methven.

Specimens of Walnuts and of sweet Chestnuts, as large and as well ripened as those usually imported, and also specimens of the sweet almond, nearly ripe, from an old standard almond-tree at Logie-Green, near Edinburgh, were presented to the Committee by George Yule, Esq., and thanks were voted to Mr. Yule for his attention in affording the meeting these additional and remarkable proofs of the uncommon warmth and dryness of the past season.

The List of the Prize Subjects of the Caledonian Horticultural Society for the Year 1827, embraces a great variety of objects, all tending to call forth the energy and skill of the practical gardener. In order that their masters may participate to a greater extent than they have hitherto done in the merit of advancing the horticulture of their country, we would suggest to this society, and to such others as think the hint worth improving on, to offer a set of premiums exclusively for the employers of gardeners; and that these premiums may have a distinct character, and confer a real honor on those to whom they may be awarded, we propose that the subjects be such as, from their nature, will preclude all gardeners from entering into competition. We should not be sorry to see something more definite as to the premiums conferred upon gentlemen for effecting objects within the proper department of the practical gardener. When we hear of Lord A. B., or C. getting a medal for seedling pears or plums, we immediately think of the man who prepared the ground, sowed the seeds, and probably grafted the 500 shoots made by the 500 young plants, on the branches of old trees, (p. 230.) A gentleman who keeps no regular gardener, is, we think, fully entitled to compete with the practical gardener; but a gentleman who keeps any other gardener than such a one as Mr. Knight's pine-grower,

“who does not know a letter or a figure,” ought, in our opinion, never to receive a premium purely professional. We sometimes wonder, indeed, how men, who have objects so much higher to aim at, can think it an honour to be distinguished as a gardener; or, thinking it an honour, how they can bear it “blushingly upon them,” conscious as they must be that it belongs to another, and that it is almost the only honour or distinction that that other can ever hope to attain. A more effectual way for a gentleman to *keep down* the spirit of his gardener, could not well be contrived. Instances have come within our own knowledge, in which excellent gardeners have been disgusted with their situations, in consequence of the cream of their labours being thus skimmed off by their employers; and we could also mention several gentlemen, eminent both in wealth and in intellect, genuine Englishmen in their hearts, who have first-rate gardeners and gardens, who have expressed their decided disapprobation of bestowing professional rewards otherwise than on professional men. As improvement ultimately finds its way into every thing, we would suggest that in future every horticultural society which offers premiums should have one class exclusively for the patrons or employers of gardeners; and that among the standing subjects in this class should be the following, viz.

The establishment of a garden library of the first, second, or third class, the silver, bronze, or iron medal.

The erection of the best gardener's house and offices of the first, second, and third class, &c. the classes to be defined by the society.

The formation of the most complete arboretum, arranged according to the natural system; first, second, and third class, &c.

The formation of the most complete collection of herbaceous plants, arranged according to the natural system; first, second, and third, &c.

The formation of the most complete systema vegetabilium of living hardy trees and shrubs, arranged according to the natural system, or the Linnean system, in groups on lawn, or in beds with gravel, or in rows, &c. &c.; first, second, and third, &c. &c.

The formation of a local flora of living plants; of the flora of any particular country; or of Europe; or of the temperate parts of the world; or of the whole world, arranged geographically on a plot of ground, laid out like a map of both hemispheres; the torrid zone a belt of hot-house, and the warmest part of the temperate zone covered with moveable glass; all the large rivers and the sea containing water; the mountains raised to a scale of their actual heights, the geology correctly imitated, the situations of the larger cities, &c. marked by seats or buildings, &c. &c.; first, second, and third, &c.

The formation of a country-seat in such a way as to combine in the woods, shrubbery, and flower-garden, a complete system of hardy trees and plants, arranged according to their natural affinities, &c. : — the highest premium to be given for the place of the smallest extent, as that would be the most difficult and the most expensive to execute, relatively to the general effect produced.

These are merely first thoughts, to be added to, varied, improved on, and the classes defined by those who may think them worth attending to; we could add a great many more subjects requiring the combination of the master's purse with the servant's skill; but we think garden libraries, and gardeners' houses, are of themselves sufficient to begin with. The comforts and enjoyments which a garden is capable of affording, will never be attained till garden libraries are as common as tool-houses.

Caledonian Gardeners' Society. (*Gard. Mag.* vol. 1. p. 219.) — At the last annual meeting of this institution, Mr. Thomas Millar, gardener, Abbey, was elected president: Mr. John Notman, slater, High Street, trea-

surer; and Mr. John Hay, fruiterer, Terrace, secretary for the present year. And prizes were awarded for rhubarb stalks, tulips, wallflower, brocoli, hardy auriculas, anemones, apples, and currants. (*Scotsman*, Feb. 10.)

The Highland Society of Scotland, at their anniversary meeting, Jan. 9., received a detailed account of the transactions of the past year, by which it appears that the manufacture of straw plait, in imitation of Leghorn bonnets, has been brought to considerable perfection by Messrs. A. and J. Muir, of Greenock. The specimens exhibited by them, and which were plaited and knit in Orkney, by females at their own houses, were of uncommon fineness, and perfect in imitation. They were made from the straw of the common rye, the grain being sown very thick on purpose, in a sandy or gravelly soil, and cut soon after it comes into ear. The straw is afterwards bleached, sized, and sorted in the way particularly reported by Messrs. Muir, the joint next to the ear only being used for plaiting.

Premiums for the neatest kept Cottage, were given, memorandums being received from the clergy of the cottages visited by them in the exercise of their parochial duties which were most distinguished for cleanliness; and these being afterwards visited by the reporters, a selection was made for the premiums.

Wedge Draining, (*Encyc. of Agr.* § 3972.) has been extensively practised by different rent-paying farmers, who, independently of the distinction conferred by premiums, have been "doubly paid by the first crop." On the whole, this society maintains its character of usefulness. (*Ed. Courant.*)

Botanic Garden, Edinburgh, Dec. 10th. — The following list of rare plants, which have flowered here during the three preceding months, was communicated by Dr. Graham, to Professor Jameson's Journal.

Aralia spinosa. This plant has stood on the open wall three winters, protected partially with broom twigs, but never flowered till the beginning of November last, having nearly reached the top of a wall fourteen feet high.

Asplenium flabellifolium, *Aster pulcherrimus*, *Banksia integrifolia*.

Begonia undulata. We received this plant in 1825 from Mr. Otto of Berlin, under the specific name here adopted, and were informed that the native country was Brazil. It has been kept in the stove.

Bignonia candicans. This plant has never perfectly evolved its flowers, but these have repeatedly decayed, both this year and last, when they were just about to burst. The shrub thrived well in the stove, and is trained to a considerable length along the glass.

Brexia madagascariensis, *Buddleia brasiliensis*. Seeds communicated to the Botanic Garden by Mr. Hunneman in 1824, and received by him from Russia, under the name here adopted. Sprengel quotes under *Buddleia Brasiliensis*, *B. perfoliata* of Humboldt; but this is quite distinct from our plant.

Convolvulus candicans. Flowered on the wall outside one of the stoves.

Crataegus (*Photinia* Lind.) *glabra*. This fine plant was covered with flowers, on the open wall, in November, and will continue so during this month also, unless the weather prove very severe. It seems probable that it came into flower, and pushed much new wood, at this season, in consequence of the warm rains, which succeeded the unusually long continued hot and dry weather of summer and autumn. If it shall prove sufficiently hardy for the open ground, there have been few more desirable additions made to the shrubbery; and it has already borne, without injury even to its flowers, a cold of 20° Fahr. (We know of several plants which have endured the last three winters unprotected, in the neighbourhood of London. — *Contd.*)

Crotolaria dichotoma. The seeds of this plant were brought to the Botanic Garden from Mexico in 1824, by Dr. Mair, and the plants have flowered in our stove during the last two years.

Cypripedium insigne, *Dianthus fruticosus*. Flowered freely in the open border. *Eucalyptus cordata*, and *E. perfoliata*. These two plants have been covered with buds on the open wall during several weeks, but have not expanded any flowers. They have not, however, been in the least injured by the late severe frosts; and the last has been out of doors for three years.

Lantana hirta. This species is a native of Mexico, from whence the seeds were brought by Lord Napier in 1825, and obligingly communicated to the Botanic Garden. They, and the seeds of many other species, some of them entirely new, were picked by his Lordship from plants in the wild state among the mountains of Arizaba, or Real del Monte. It is much to be desired that others of our countrymen would equally profit by the opportunities afforded them, of contributing to our knowledge of exotic botany.

Metrosideros lanceolata. This plant has stood on the open wall for three winters, partially protected with broom twigs.

Monarda punctata, *Passiflora capsularis*, *Patersonia glauca*, *Pilea mucosa*. This curious little plant, so well illustrated in the *Collectanea Botanica* of Lindley, has for several years flourished in our stove; but I have not observed it frequently in collections.

Ruellia anisophylla, *Silene regia*. This fine plant was sent, while in flower, from Mr. Ferguson's of Raith, whose gardener raised it from seed sent from Montreal. *Vanda restrata*.

Dr. Graham remarks, that he has often observed that, in different seasons, certain plants flower much before, or not till long after their usual period, when the state of the weather would have led us to expect the very reverse. This season, the hairy leaved *Laurus-tinus* will not be in flower till towards the end of January; two years ago, after a very inferior season, it was in full flower during December.

The *Arbutus Andrachne*, and laurel-leaved variety of *Arbutus Unedo*, nailed to a wall with a south exposure, are considerably later than plants propagated from the same stock, and growing as standards, though the soil where they are placed be equally loose and dry. The tender plants in our borders seem to have suffered less from the frost which we have had lately, than they usually do, probably owing to the dryness of the soil; for the rains have yet penetrated but a little way below the surface, (*Prof. Jameson's Edin. Phil. Jour. Dec. 1826, p. 184.*) These and other facts mentioned by the Professor, may perhaps be accounted for by the very dry summer retarding the progress of winter flowering plants, and the stimulus given by the rain to autumn flowering ones. — *Cont.*

Culinary Vegetables, during the last summer, were scantily supplied to the Edinburgh market, and brought double the usual prices. Flowers were scarce; but autumn and winter fruits abundant. French pears have ripened sooner by a month or six weeks than usual, and as they do not keep well in consequence of the autumnal rains, the dessert will be but poorly supplied towards the spring. Crassanes, which generally last till February, were over in December. Though apples are very abundant, yet apple-pies come but very slowly into fashion among the lower classes. Walnuts have ripened well, and are of excellent quality; and sweet chestnuts, a thing almost unheard of in Scotland, have been brought to the dessert since October. Grapes, even the Black Hamburg, have ripened in various places on the open walls. Portugal laurel berries are in profusion; the Sweet Bay is in fruit in some places; *Magnolia grandiflora* var. *Exoniensis*, and *Yucca gloriosa* have flowered; and from the soil not being yet thoroughly moistened with the rain, the wood of many half hardy exotics has not yet been injured by frost." J. B.

December 20. 1826.

A Field of Barley was reaped on the third week of December, at Seafeld, in the neighbourhood of Dundee, which was sown after a crop of potatoes, and yielded a full average return of grain of good quality. (*Newsp.*)

IRELAND.

Mr. Moggridge's Cottage system (*Gard. Mag.* p. 19.) "might be adopted here by any spirited proprietor, with equal or perhaps superior results. The difficulty of which Mr. Moggridge speaks, as "arising out of that state, bordering on despair, which paralyzes the exertions of our labouring poor," would scarcely be found to exist in Ireland. Of all people on earth the Irish peasantry possess the *Nil desperandum* most peculiarly. Indeed, if they had not the most buoyant spirits under misfortunes, they could not exist at all. They survey life ever with the most favourable glance. At present they are slovenly and unimproving, but it is entirely owing to not having any, even the smallest, interest in being otherwise; for, with very few exceptions, the effect of industry and neatness on the part of the Irish cottager or small farmer, would be to raise his rent enormously as soon as his tenement fell to the landlord or middleman. The Irish landlord endeavours to increase his rent-roll, though his tenants may be ultimately ruined. The English landlord seeks to render his income more secure by extending the comforts of the occupier of his ground. (*Irish Farm. Journ. January 27.*)

A Letter on the Treatment of the Irish peasantry by their Employers from Mr. Thompson, Steward to the late Earl Farnham, we must defer till next Number. We regret to find that the Irish Farmers' Journal is to be discontinued, after having existed fifteen years. The Proprietors attribute the present unprosperous state of the paper, more to the general circumstances of the country than to any other cause. A sum of nearly 2,000*l.* being now due from the subscribers. We are sincerely sorry for this cir-

cumstance, not only because the paper appeared to us well conducted, and calculated to be of real use to cultivators of the soil, but because it indicates a deeply depressed state of rural society.

Irish Furze, Broom, and Yew.—Ireland possesses varieties of the furze, the broom, and the yew, very different from any yet found in Great Britain. The *Ulex europæus* of Ireland is more upright in its growth than the common plant, more compact, but much softer, and scarcely prickly to the touch. The Irish broom is very remarkable, and seems to be really a different species from *Cytisus scoparius*, (*Spartium scoparium*, Auct.) This is characterised by the pods being glabrous on the sides, but furnished with a margin of short woolly hair. The Irish one has the pod so totally covered with long woolly hairs as to appear at a distance like balls of white cotton. It in all probability will be found to be *Cytisus grandiflorus*, a species hitherto found only in Portugal. Lastly, the Irish yew is merely a shrub; the leaves are not distichous, as in the common *Taxus baccata*, but are quaternate. Of all the three shrubs the British varieties are also found in Ireland, the abovementioned being rare. (*Prof. Jameson's Phil. Jour.* p. 207. December, 1826.)

We should be glad if our correspondent. Mr. Robertson of Kilkenny, or Mr. Fraser of Loughrea, would inform us from what nurseries in Ireland or Britain these plants may be procured. The whin and the yew may be had about London, but they are rare. — *Cond.*

ART. III. *Horticultural Society and Garden.*

Dec. 5. The following Papers were read: — On Dahlias. By Mr. William Smith, under-gardener in the Arboretum department of the garden of the Horticultural Society at Chiswick. Upon the Culture of Celery. By Thomas Andrew Knight, Esq. F.R.S. and President.

The following Matters were exhibited: — Round Tripoli Onions, grown by Mr. Barker of Edmonton, brought by Mr. Daniel Judd, F.H.S. (four weighed seven and a half pounds.) Potatoes from the Marquis of Salisbury, F.H.S. (four weighed eleven pounds eight ounces.)

Dec. 19. The following Silver Medal was presented: — To John Motteux, Esq. F.H.S. for his great attention to the Cultivation of Fruits in his Garden in Norfolk, as proved by his frequent exhibitions of its produce to the Society.

The following Papers were read: — On Oraché, its varieties and cultivation. By Mr. William Townsend, under-gardener in the kitchen-garden department of the garden of the Horticultural Society. On the destruction of the Caterpillar on Gooseberry Trees. In a letter to the Secretary. By Mr. W. Chartres, C.M.H.S. A plan for the growth of the Early Strawberries. In a Letter to the Secretary. By Mr. James Carrington. On the esculent Egg Plants. By Mr. Andrew Matthews, A.L.S. Description of a plan for growing Mushrooms. In a letter to the Secretary. By Mr. William Young. An account of a method of heating Stoves by means of Hot Water, employed in the garden of Anthony Bacon, Esq. By Mr. William Whale, gardener to Mr. Bacon. A notice of six varieties of Pears, received from Jersey in the year 1826. By Mr. John Lindley, F.L.S. &c. Assistant Secretary for the Garden.

The following Matters were exhibited: — Colmar and St. Germain Pears. Uvedales St. Germain Pear, from Mr. Moisson of Jersey, weighing two pounds twelve ounces. (This is the pear alluded to by our correspondent,

Juvenis, p. 243..) Green Providence Pine Apple, and a silver and pink striped Surinam Pine Apple from Gregory Gregory, Esq. F.H.S.

Also from the Garden of the Society: — Flowers of *Tussilago fragrans*, of two coloured, incurved, and other sorts of *Chrysanthemums*. Common Succory, Italian Succory, Chicorée à feuilles panachées, and forced Potatoes.

Jan. 2. 1827. *The following Papers were read:* — Remarks upon grafting the Pear upon Quince Stocks. In a letter to the Secretary. By Mr. Thomas Torbron, F.H.S. Account and description of the different varieties of Raspberries which have been cultivated and examined in the garden of the Horticultural Society of London. By Mr. William Sanderson, foreman in the fruit department of the garden. An arrangement and description of Gooseberries cultivated in the garden of the Horticultural Society at Chiswick in the year 1826. By Mr. Robert Thompson, under-gardener in the fruit department.

Jan. 16. No meeting, from respect to the memory of the Duke of York.

Feb. 6. Several books were presented, and some papers read; two by gardeners in the employ of the Society, on Raspberries and Gooseberries fruited in the garden at Chiswick; and one by a foreign corresponding member, on the state of Gardening at Riga and its neighbourhood.

Among the Articles exhibited, were woollen netting for fruit trees, sent from North Wales by Sir Robert Vaughan, and which, including carriage, can be delivered in London at 54d. per yard; no place of sale is yet fixed on; but in the meantime orders may be sent to Mr. Lindley, at the Society's house, in Regent Street. (Gardeners in the country may write to their nurserymen to apply there.) A seedling *Camellia* by Mr. Allnutt; plants of the common and white-flowered variety of the *Primula sinensis*; a flower of *Crinum amabile*; blossoms of *Chimonanthus fragrans*, one of the few hardy shrubs which, planted against a south wall, are in bloom during December, January, and February; purple and variegated Borecole; some Apples and Pears, and forced Asparagus and Rhubarb, were also on the table. Grafts of Knight's early Black Cherry, Jaune Hâtive Plum, Rezi de Montigny Pear, and Lamb Abbey Pearmain; and seeds of Green Turkey Cucumber, White Turkey Cucumber, Union Cabbage Lettuce, Vanack Cabbage, and White Solid Celery were given away. Part V. of Vol. VI. of the Transactions of the Society, it was announced, will be ready for delivery on the 23d of February.

Chimonanthus fragrans is a shrub worthy of notice; one or more plants of it ought to be planted against a wall, in a warm situation, in every garden where the peach will ripen in the open air; and, in other gardens, it ought to be planted in the ground in the conservatory or green-house, or against a wall, and protected by a glass and mats. Its blossoms are highly fragrant, and the odour is of that refreshing kind which never palls on the sense. In many families a small plate of the flowers, garnished with sprigs of myrtle, laurel leaves, or, when the season admits, blossoms of *Camellia*, is produced every morning at the breakfast table. A few yards of wall covered with this plant will afford incomparably more enjoyment than as many yards of peach-tree or grape; and enjoyment, also, of a more elegant character.

Feb. 20th. — Among the papers read, was one by Mr. Macmurtrie, of Shugborough Gardens, on iron hot-houses. Mr. M. admits the elegance of these structures as compared with wood, and allows that they are well adapted for lofty green-houses and conservatories; but so decidedly is he against their use for forcing-houses, and especially for early forcing, that if a new house were to be erected at Shugborough, and his employer proposed to construct it of iron, rather than have it of that material, he would prefer constructing it of wood, even if at his own expense. Iron houses are much dearer than those of wood, and Mr. M. denies that they last longer. These being the opinions of a gardener of great experience, whose excellent crops and new mode of growing pines, &c. (vol. i. p. 407.), prove him to be not only eminent in his profession, but a man of ingenuity and alive to improvement, the reader will do well to contrast them with our ideas as to iron hot-houses (p. 107.), written under the strong impression made by the range erected at Syon, and with a pre-

vious general partiality to iron structures. Notwithstanding Mr. Macmurtrie's experience, yet, we cannot avoid being of opinion that iron hot-houses, from their admitting much more light to the interior than wooden ones, will ultimately be found even *peculiarly* adapted for early forcing, in which light is so much wanted. We also think, that if the same care be bestowed in painting, &c. as on wood-work, they will last longer. With respect to expense, where the roof is made of iron rafters and sashes, as at Syon, compared with wood it is, we believe, as 6 to 4 or 4½. But opinion is of little value compared to experience, and for this reason we are anxious to neutralise our own perhaps rather partial remarks, by the sound practical judgment of so eminent a gardener as Mr. Macmurtrie. We invite him to favour us with a communication on this subject, which, however much it may differ from our views, we shall be most happy to insert; having no other object in all our lucubrations, than the promotion of improvement, and the entertainment and instruction of our readers; and well knowing that these objects are best promoted by free discussion.

Immense Pear. "Sir;—A tradesman of this island, has in his possession a most extraordinary fruit of the pear, which grew in his garden this year. It weighs 44 oz., measures 16 inches in circumference, and 10 inches from the top to its base. It is a baking fruit, and has been called the 'Belle de Jersey,' and also the 'Râteau Gris;' but Mr. Saunders, a respectable nurseryman here, thinks it to be a variety of the Bon-Chrétien, to which fruit it is allowed by all to bear a great resemblance. [It does, being the Uvedales St. Germain, noticed as above, as exhibited at the Horticultural Society on the 19th of December.]

"While I am writing, I may as well acquaint you with a species of imposition which has been practised on the London Horticultural Society, by an individual from this island. This person, on being about to visit the metropolis last year, begged a specimen of the above fruit from the proprietor, which weighed about 26 oz.; this, I understand, he presented to the Society, as the growth of his own land, and in return he was awarded a silver medal, for having produced the largest pear. The proprietor, on the return of this person, having heard of the circumstances, immediately forwarded another larger fruit from the same tree, which weighed 35 oz.; but it came too late, and the real proprietor received only a letter of thanks from the Society. [We believe the writer is mistaken as to the medal, but we insert his remarks to encourage vigilance.]

"This person attends the market regularly in quest of the largest and best fruits of both the apple and pear, intending to send a box of them to the Society, no doubt as the production of his own land, and in return for which he entertains hopes of being elected a member. [Here, also, our correspondent must be mistaken; for if the individual alluded to can pay his fees, he may be elected a member without the trouble of sending a present of fruit, and without in the slightest degree risking his conscience.]

"I hope that you will insert this, and prevent an imposition, likely to be favoured by the distance and obscurity of this island. I am, Sir, &c.

"*Isle of Jersey, Dec. 6. 1826.*

JUVENIL."

We have inserted these extracts from a long letter, trusting, that as no names are given, no harm can be done; while, if the latter part of the statement be correct, some good may be the result. — *Cond.*

ART. IV. *Covent Garden Market.*

February 13.—The supply of fruits and vegetables has been adequate to the demand till about the middle of February, when most articles got rather scarcer and dearer. White and purple brocoli, being nearly all destroyed by the frost, is now very dear; purple from 4s. 6d. to 6s. per bundle, white from 5s. to 12s. per bunch. Asparagus has been at a reasonable price through the winter, but now sells at from 9s. to 12s. per hundred; best sea-cale 6s. per dish. Pine-apples have hitherto been abundant and cheap. We have had ample supplies of Newton pippins, and Reinette gris from America and France. Our own apples and pears have kept very badly this season; they are now scarce, and very dear. (J. G.)

ART. V. *Garden Libraries.*

We are happy to find that our suggestions on this subject have been received, as we expected they would, with general approbation; and though we have to regret the indifference which appears to exist as to the personal improvement of gardeners in some nurseries and other public gardens, yet we have the satisfaction to announce the formation of at least three libraries;

viz. at Mr. Mackay's nursery, Clapton; at Mr. Bannerman's nursery, Walton, near Liverpool; and at the Duke of Portland's gardens, at Welbeck, Nottinghamshire, which equal every expectation. A library on a smaller scale has been commenced by Mr. George Fulton, gardener at Northwick Park, Gloucestershire, and some village libraries are in progress in the neighbourhood of London. On the subject of village garden libraries, we have received a valuable letter signed "A Constant Female Reader," to which we beg particular attention. Could we only insure the exertions of the ladies and the clergy in our favour, we should have no fear of this class of garden libraries becoming general throughout the kingdom. Since we received the letter we have had communications with several gardeners in the neighbourhood of the metropolis, who are of opinion that a central London library for the use of working gardeners, and others, might be established with great advantage to the young men in work in the nurseries, and in private gardens, within the distance commanded by the errand carts of the metropolis. Many amateurs would also be most happy to subscribe to such a library, so that we hope the subject may be taken up by some bookseller or seedsman as a matter of business. There never was a finer opportunity for the Horticultural Society to do great good, at almost no additional expence. They have only to devote a spare room of their house in Regent Street to the purpose; place in it such duplicates of books as they already have; and purchase, from time to time, and receive presents, of the other requisite books. We need not go into details; we only repeat that the Society could do the thing cheaper and more effectually than it could be done by any other means; and that, as a Horticultural Society, they ought to do it. We hope they will, and also that the Caledonian Horticultural Society, and all the provincial societies, will follow their example.

We shall now proceed to record the libraries established since our suggestions appeared, premising that we mean to number them in the order of their establishment, and that, in every future volume of the *Gardener's Magazine*, after the preface, will be given a list of the British Garden Libraries, public or private, known to be in existence at the time. This will point out the best places for young men to seek employment at, and also those nurserymen who have done most for the working gardener, and merit a corresponding gratitude.

No. I. — *Mackay's Clapton Nursery Library*. Established at Clapton, near London, January 8. 1827.

"Upper Clapton, Jan. 8. 1827.

"Sir,—I have the pleasing task imposed upon me by my fellow workmen, of informing you that in this nursery a garden library, according to the plan suggested in the last number of your valuable *Magazine*, has been established. We have always had books lent us to read when we chose to apply for them; but it is from the appearance of the last number of the *Magazine* that we date the establishment of a regular library. The next morning after its appearance, our liberal employer, Mr. Mackay, informed us that he meant to purchase books for our use, and how far his intentions have been carried into effect the following list will show.

"The library is at present managed by a committee of three persons, men employed in the nursery, who are to be regularly elected on the first of every month; they are to give out and receive the books, keep an account of subscriptions, purchase new books, &c. The money for the support and increase of the library is to be raised by laying a penny per week upon every one in the nursery who reads, and sixpence upon every one sent out of the nursery to a situation, whether as master or under gardener. Added to this, our employer has put his name down for 2s. 6d. per week, which will produce a fund amply sufficient to make all the additions we are likely to require.

"It has also been recommended to us, and unanimously agreed to, that a Herbarium of the native plants growing round London, as far as they can be obtained, shall be formed and attached to the library, as being the most effectual way of acquiring a knowledge of British botany, and also as materials of reference to the young men who may come after us. We would suggest to you to recommend to all gardeners who have garden libraries to do the same thing; keeping a list of all plants found, their habitats, soil in which they grow, situation as regards altitude, with any other particular that may occur to them. If this were acted upon throughout the country for only a few years, and copies of the lists collected together, it would afford excellent materials for ascertaining the localities of particular genera and species, and also the geographical distribution of the British Flora generally. Perhaps you will say we are speculating too far on the utility of such an appendage to a garden library. I will, therefore, leave it to your better judgment to decide how

far our suggestion in this particular ought to be followed by our fellow gardeners. There are still other additions which we intend to make to the Clapton Nursery Library not enumerated in your catalogue of materials, but which we are convinced you will see the necessity of. Every one who has thought on the subject, will agree that a gardener ought to understand land surveying before he can be considered fit for a situation as a master gardener, and consequently Gunter's Chain, to allow of actual practice in the fields, becomes necessary. The dendrometer also, described by your very intelligent correspondent, Mr. Gorrie, for measuring the height and contents of timber trees, we also consider requisite; in fact, mensuration generally is a necessary qualification, and if so, the instruments for acquiring a practical knowledge of it must be necessary also.

"How far the diffusion of knowledge may be promoted among gardeners by the establishment of garden libraries, time alone can prove; but if Mechanics' Institutions, aided by Mechanics' Magazines, have made a sensible change upon that class of society for which they are intended, surely it is not too much to presume that similar causes will produce similar effects among gardeners. Should you consider any part of this letter worthy of insertion in the Gardener's Magazine, you are not only at liberty to do so, but it will be esteemed a favour by a few of your constant readers. I am, Sir, (for the Clapton Nursery Library Committee,) your obedient servant,

"WILLIAM RENTOUL, Secretary."

The list of books referred to, enumerates upwards of 260 volumes, including all the requisite elementary books, a number of books for general reading, such as Henry's History of Britain, Chambers's Encyclopædia, the Mechanic's Magazine, Transactions of the Society of Arts, &c., and many valuable books on natural history, botany, gardening, &c., such as the Linnean Transactions, Latham's Birds, Andrews's Heaths, Botanical Register, Cistineæ, Geraniaceæ complete, Botanical Magazine, several volumes, Martyn's Miller's Dictionary, &c. Mr. Mackay became entitled to our globe, which he received, and also Nicholson's Encyclopædia, and 30 other volumes from Messrs. Longman, Rees, and Co. This Library, therefore, amounts to nearly 300 volumes.

No. II. — *Thompson's Welbeck Garden Library*. Established at Welbeck, near Ollarton, Nottinghamshire, January 13. 1827.

"*Welbeck Gardens, Jan. 13. 1827.*

"Dear Sir, — My son's anxiety to obtain your prize, has led him into double diligence. Inclosed you have a list of the books and mathematical and surveying instruments; in addition to which may be mentioned several manuscripts which I prize very much.

"In my endeavours to forward my pupils, if I find a youth worthy, (like my late and present foreman,) I am as anxious to assist him as my late friend Mr. Speechly was with me; I recommend a regular series of studies, and take them through the elementary sciences, and especially surveying, according to the seasons; showing them my rude surveys, and sketches, &c., some of which are of 40 years' standing, and leading them on from ancient to modern practice. I have by me rude copies of some of Mr. Speechly's plans drawn when he was a boy, as well as some of his engravings, &c.

"I take no premium with my pupils, and am determined not to send a fool into the world with any recommendation from me. I am, dear Sir, &c.

"J. THOMPSON, Sen."

The list referred to contains 42 volumes on elementary subjects, 33 on general knowledge, 40 on botany, and 30 on practical gardening. Being the first private garden library, we considered it also entitled to a globe, to which Nicholson's Encyclopædia, and 34 volumes on botany and practical gardening were added by Messrs. Longman, Rees, and Co. It is particularly gratifying to us to find that the successor to Mr. Speechly has been one of the first to adopt our suggestion, or rather to make known that he has been acting on it for many years; and that Welbeck, so long celebrated for its gardens and woods, is likely to maintain and perpetuate its character. We are the more pleased that our original associations with Welbeck have been revived, because in giving a short character of that place, in our Encyclopædia of Gardening, we have to a certain extent done it an injustice, by saying that it was neglected. The truth is, that ten years of continued ill health had obliterated it from our memory to such an extent, that when we called there last autumn, we were astonished to find that we were personally acquainted with Mr. Thompson, who reminded us of certain sketches and memorandums, which we took there in 1805; and on our return home, found in our journal and sketch-book for that year. Had we been so fortunate as to have looked into that journal in 1820, we should not now have to

make the *amende* to Mr. Thompson; which, however, he will think the more *honourable* as it is made without his foreknowledge or concurrence.

No. III.—*Bannerman's Walton Nursery Library*. Established at the Walton Nursery, near Liverpool, January 23. 1827.

" *Walton Nursery, near Liverpool, Jan. 23. 1827.*

" Sir, — It may perhaps afford you some pleasure to learn that your proposals for the formation of garden libraries have met the unanimous and warm approbation of all at this nursery, and also that the scheme is already carried into effect. Your last number (the fifth) of the *Gardener's Magazine*, was read by Mr. Bannerman on the 3d inst., and the next morning he communicated to the men, through the medium of his foreman, Mr. William Dall, his intention of presenting a quantity of books, and a sum of money, as a beginning for a library; and also that he would continue to be a regular contributor to it. This communication was received by every individual on the premises with sincere pleasure, all of us being sensible of the benefit that would result from such an institution. The books which Mr. Bannerman has contributed, and of which I send you a list, have been removed to a room adjoining the office, which he has appropriated for the use of the library; and we began to circulate them on the 8th inst.

" You have solicited the opinions of your readers on the subject of Garden Libraries. I therefore respectfully take the liberty of offering the sentiments of this infant society. We agree with you in thinking that all who keep a head gardener, and employ men under him, ought in justice to themselves, as well as to their gardeners, to establish a library for their use; and in order that it may continue to be supported, we think the plan we have adopted might, in some degree, be suitable to most of them; viz. that after the master has provided books, &c. to form a beginning, he should continue to contribute a sum of money for its support; but in order that those for whose use it is designed may be as much as possible interested in its prosperity, we conceive that they also ought to contribute something regularly while they continue to use it. This would give them a claim to it, and be the means of their being more assiduous than perhaps many of them otherwise would be. We have all put down a small sum as a first subscription, and agreed to pay a small sum monthly for the support of the library, and as there are a considerable number of men regularly employed here, we expect, by moderate contributions, to be in time possessed of a good collection of books.

" I must here remark an observation that was made by several gardeners, who are in the nursery waiting for situations, that if they were fortunate enough to be soon called away, it would be their own faults if they were in any degree losers by the establishment; for if they were at all industrious, they would in a short time receive information equivalent to their contribution, and if the plan be pretty generally adopted, they might perhaps be fortunate enough to benefit by the contributions of their predecessors in the same way that those would who might chance to succeed them here.

" In the vicinity of Liverpool there are, as at other large towns, a number of places where there is only one gardener kept, and where it cannot be expected that there will be sufficient books provided for his use; we have therefore agreed to admit gardeners so situated in our neighbourhood, and several have already embraced the opportunity of becoming members of our little establishment on the same terms with the men employed in the nursery.

" Our rules are not yet framed out, and we shall feel obliged by any information on the subject, and if at any time you think that we can be of any service in communicating any thing to you, it is requested you will at all times freely command us, and you may rely on our best endeavours to comply with your wishes. I remain, Sir, (for the members of the Walton Nursery Library,) your obedient servant,
GEORGE WILKINS."

The list referred to contains above 200 volumes, professional, miscellaneous, and elementary; to which Messrs. Longman, Rees, and Co. have added nine volumes on gardening and botany, and *Hort's Domestic Education for Self Instruction*, in 22 volumes, 12mo. The different suggestions in Mr. Wilkins's letter merit the attention of all intending to establish libraries; and the intention of accommodating their neighbours deserves the imitation of other nurseries; perhaps it might be advisable, in some cases, to extend this accommodation to amateurs, at a charge similar to that of circulating libraries, which, while it would promote a taste for botany and gardening, would be the means of increasing the value of the library. But we offer these suggestions with deference, because Mr. Dall, who belonged to what was called the Leith Walk Linnean Society, a useful institution, maintained by the journeymen gardeners about Edinburgh some years ago, is better able to be useful in this way than we are. It is evidently a good plan, adopted both at Clapton and Walton, to charge something, however little, for the use of the books, and fines should be fixed on for keeping a volume above a certain time, or for injuring it. But whatever plan is commenced with can always be improved by experience, till it is found to work satisfactorily. We are sure there is not a gardener who reads this *Magazine* that will not admire the liberality, and feel grateful for the kindness of Mr. Mackay and Mr. Bannerman, and we know they will give evidence of it as they ought to do. We trust the example will be imitated

by other nurseries, for the advantage of the masters, as well as the benefit of their workmen.

No. IV. *A Garden Library* of the second class has been established at Northwick Park, by Mr. George Fulton, gardener to Lord Northwick, but we are in hopes, from a passage in the following letter, that we may be able soon to rank it as a library of the first class.

"Northwick Park, near Marston in the Marsh, Gloucestershire, Jan. 6 1837

"Sir,—I am much pleased with your suggestions respecting Garden Libraries, and I hope they will be adopted by all gardeners in some way or other. I have, in the course of my practice, received many presents of books from my employers, from ladies more particularly, therefore, I think the best way would be for head-gardeners humbly and respectfully to ask gentlemen their masters, for books, or, jointly with their masters, to supply young gardeners with whatever books or instruments may seem calculated to be useful for them. I have also found clergymen very good in lending useful religious works, which I think ought to be placed on our shelves along with our horticultural ones. Plays and novels, which I have seen young gardeners carry about in their pockets, might be dispensed with until they have learned something of grammar and arithmetic.

"As my noble and benevolent employer is from home at this time, I cannot state how far he will enter into my views, but I shall mention the subject to him the first opportunity I have. His Lordship has lately built for me a good house in the garden, and supplied most of the furniture, including a very useful book-case, resting on drawers for seeds and papers, of which I send you a sketch (fig. 65.). The two parts do not require to be fixed to one another, or to a wall, and, being quite portable, they may be placed in any dry room. Curtains of green baize answer nearly as well as folding doors, and are cheaper. Although the above is upon a small scale, still I hope it will be worthy of notice to many of your readers. Below is a list of the books I have put in it.

"I am, Sir, &c.

GEORGE FULTON."

The list referred to contains upwards of two dozen of well-selected volumes, professional and elementary, including Donegan's Greek and English Dictionary, Latin and Greek Grammars, &c., to which we have added, not as of any value, but as a mark of approbation, four volumes from our own shelves, and three from a *present of books for garden libraries*, made by Mr. J. P. Massey, jun. of Bristol. The circumstance of Lord Northwick having contributed the greater part of the furniture to his gardener's house has our warmest approbation. We have before suggested the idea that it would be better both for masters and their head-gardeners, if the fixtures and principal articles of furniture belonged to the master, and were "taken to" by the gardener at a valuation, and taken from him again in the same manner when he leaves his place; he paying the difference of value for its use, much in the same way as is now done by tenants on entering and quitting a farm. If this were done, and garden libraries established, the comforts and enjoyments of gardeners would be greatly increased at very little expence to their masters, and that expence not requiring to be repeated.

For libraries of the second class we can recommend: Hort's Domestic Education for Self-Instruction, 28 vols. 12mo. in a mahogany case, Price 3l. 15s. 6d., as serving as a substitute for a number of elementary volumes. It consists of, Vol. I. Advice to Parents and Tutors. II. to VIII. English Spelling, Reading, Prose and Verse, Grammar, Exercises and Key. IX. English Dictionary. X. Bible. XI. Geography. XII. Arithmetic and Key. XIII. and XIV. History. XV. Sciences and Arts. XVI. Natural History. XVII. to XXI. French Grammar, Exercises, Key, and Reading, Prose and Verse. This work, and *The Library of the People*, now publishing, will go far towards completing the elementary department of a library of the second class.

Libraries of the third or lowest class, adapted for gardens where there is only one gardener kept, may consist of a few good practical books, and a general Encyclopædia, or Constable's Miscellany. *The Encyclopædia Bri-*

tannica may now be purchased for 20*l.*; its Supplement, 12*l.*; Farmer's Magazine, 6*l.*

Village Libraries.—The following letter deserves particular attention. We sincerely recommend it to the consideration of clergymen, medical men, tradesmen, and others, amateurs of gardening, resident in towns and villages. Country nurserymen, and market-gardeners of spirit, might, in many cases, set on foot libraries of this description; but it is from clergymen in the country, a class of men highly and deservedly respected, alike by the laborious classes and the highest ranks, — because it is the respect due to virtue, — that we expect co-operation in this department of the subject.

“ Clapton, January 10. 1827.

“ Sir, — I have read with much pleasure your article, in the Gardener's Magazine, respecting Garden Libraries, and feel confident that much may be done by such plans, towards raising the class of men under consideration from habits of vice and intemperance to those of virtuous industry. I beg, however, to suggest that in all populous villages near London one public library would be more useful than many private ones, as the one would ensure the means of information to all who were willing to receive it, while the other would exclude many equally desirous, but whose masters were not either able or willing to confer the benefit. I think, also, that many gentlemen would contribute what would be very liberal to a public library who could not do the whole individually. The gardeners, themselves, also might aid in supporting such an institution, by subscribing one penny per week, for which they might be entitled to a ticket, which should procure for them an hour's reading each evening in the week, after six till nine o'clock. By limiting the time, idle discussion would be prevented, as each would be anxious to gain all he could during his stay. This plan of associating might, in some instances, be more useful than solitary reading, as a book might be kept, in which questions on general improvement, on the subject of gardening, might be registered, and one evening in a month, or oftener, devoted to the purpose of replying to them, either in writing, or otherwise, by the members of the institutions, who, by consulting the registry, might always know what subjects were waiting for answers, and endeavour to gain that information which might enable them to throw light on the question. As the property of the Society might all be locked up during the day, a room used as a school might, during the infancy of such an undertaking, serve very well. The benefits arising from the adoption of such plans are incalculable, as by them men would be withdrawn from scenes of dissipation, (to which, in the first instance, they only resort for the sake of society), to those not only of recreation, but of improvement, and by thus getting their minds stored with useful knowledge, not only benefit their employers, but greatly advance their own interest and happiness. The benefits of such an institution would be great to young men just entering on the profession, who are desirous of information, but have no means of procuring it. On the subject of private libraries, it may be feared that not one master in ten would be found willing to give the plan the encouragement it deserves; thus the servants of the other nine, though equally deserving and desirous of information, would be deprived of the benefit enjoyed by that individual, whose master duly appreciated the value of his servant's improvement; but, in the event of a public library, no man need be precluded from the benefit who could spare the trifling sum above mentioned; and, after all, much must depend on the gardeners themselves, as the library, whether public or private, would be useless without a disposition to read. Much more might be said, but the above may serve as hints. If they should be of any service, it will be very gratifying to

“ A CONSTANT FEMALE READER.”

We hope this letter may lead to the establishment of a village garden library at Clapham; but, at all events, we trust it will induce the female part of our readers to lend their influence to the cause. No study and recreation can be more suitable for a lady resident in the country than botany and gardening; it ought therefore to be an object of endeavour to render gardeners more fit for answering the different questions, and aiding in the different operations, and, in short, fitting their minds for the sort of contact with their employers, that the exercise of that study and the enjoyment of that recreation imply.

Other letters on Garden Libraries from Mr. Saul, Mr. Brown, Mr. Mather, &c. &c. we must defer at present; noticing only an anonymous suggestion, that, as there are about forty gardeners employed in the Royal Gardens at Kew, a library established there would do much good, and suggesting to us to recommend the subject to Mr. Aiton. The value of this hint is so evident, that it requires no comment; we hope it will be taken up by Mr. Aiton or Mr. Blount. A second hint is, that the London Horticultural Society might present their Transactions to some of the principal of these libraries. A third hint is, that a metropolitan garden and agricultural library for the use of all practical gardeners, farmers, or country labourers, in every part of England, at 1-5th or 1-6th of the usual charge made by

public libraries, and for all other classes at the usual charge, would be of immense use; and so convinced are we of this, that if the Horticultural Society do not establish some such library, we shall endeavour to procure its establishment. Such a library would not interfere with private garden libraries, for the expense of carriage would be an effectual barrier to its being made use of by working gardeners at any distance from the dépôt. But such libraries in all large towns would be of the greatest use to their inhabitants, and those in the vicinity. We recommend their formation to all whom it may concern. The sooner reading is rendered a necessary of life among all classes the better.

Presents of Books received to be presented to Garden Libraries: — J. P. Burnard, Esq. 5 vols. R. S. 1 vol. A Lady, a French Dictionary and Grammar. J. P. Masey, 10 vols. "as a mark of approbation, but not to be estimated by their value;" also, by J. P. Masey, a case of French Tables, "to be given to any gardener who is endeavouring to acquire the French language, with the intention of travelling on the Continent for professional improvement." Anon. a Gunter's scale, and a few old school books.

Books distributed: — 3 vols. from J. P. Masey to No. III. G. L. second class.

Value of Books. — In the want of books which the late Miss Benger, author of *Memoirs of Mrs. Hamilton*, and other meritorious works, suffered, she informed Miss Aikin, that it "was her common practice to plant herself at the window of the only bookseller's shop in the little town which she then inhabited, to read the open pages of the new publications there displayed, and to return again, day after day, to examine whether, by good fortune, a leaf of any of them might have been turned over." — *Lit. Gaz.* Every circumstance of this sort ought to be turned to profit by the young gardener: first, let him be thankful to his master for the use of books; secondly, let him show this thankfulness, by assiduity in their study and perusal; and, thirdly, let him reflect, that, however arduous his desire of knowledge, it can hardly surpass that of Miss Benger.

! ART. VI. *Answers to Queries, and Queries.*

Finlayson's Harrow and Grubber. — R. W. of Northampton having seen in the *Times* newspaper some account of "a new implement which has been used for stirring up the surface of the ground in Hyde Park," is desirous of knowing what it is, our opinion of its value, and whether it be described in our *Encyclopædia of Agriculture*.

In the first place, as to what it is, it may be described as a harrow combining a grubber or cultivator. The advantages which it possesses over other implements of the same kind are thus related by the patentee.

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re-
(c)
the
! a
(e),
. or

nine inches. Also the axle-tree of the hind wheel is moved betwixt c and p, a space of seven or eight inches, by a screw through the axle-tree, which is turned by a small handle (q), so that the

hind part of the harrow, by this simple mode, is also regulated to the depth that it is found necessary to work.

Fourthly, when the harrow is drawn to the head or foot lands, the regulator is pressed down to (d), and the fore-wheel (m) is then allowed to pass under the fore-bar (a) by which the nose of the harrow is lifted, and the points of the fore tines (jlll) will then be taken two or three inches out of the soil, which affords the means of turning the harrow with the greatest facility.

Fifthly, being made of malleable iron, its durability may be said to be endless, whereas, if made of wood, the prime cost would be entirely lost at the end of every five or six years.

Lastly, the mode of working is so easy, that any boy of ten or twelve years of age is perfectly qualified to manage it."

In the second place, as to our opinion of the value of this implement, having seen it at work in Hyde Park, we have no hesitation in declaring, that we think it the most valuable pronged implement that a farmer can be possessed of. In many cases it may be used as a substitute for the plough, not merely for one or two ploughings, but for all the stirring that lands may require for several seasons in succession. All that we have said in favour of the grubber, (*Encyc. of Agr.* § 2527 to 2539.) will apply with double force to Mr. Finlayson's implement. Though generally worked with four horses, the same effect may be produced, but in longer time, by two, on the principle so judiciously explained by Governor Beaton (*Enc. of Agr.* § 2528.); and this of itself is a proof of the perfection of the construction of the implement; for what is called the Scotch Grubber must either be worked with four horses or not at all. No person could be expected to believe the power of this implement without seeing it at work. It covers a breadth of five feet in Hyde Park, and after being drawn twice one way, and twice across, the soil which had not been under the plough within the memory of man, was completely loosened to the depth of six or seven inches. It is true the turf had been previously removed; but as that was the softest part of the soil, it was more against the implement than in its favour. In clearing land from couch or other tough root weeds, no implement can equal this harrow; for proofs we refer R. W. to Mr. Finlayson's "*British Farmer*," (noticed vol. i. p. 199.), or to a number of testimonials by eminent agriculturists, both in Scotland and England, printed on a single sheet, which may be sent as a letter, on application at Russel's manufactory, Brunswick Street, Stamford Street, London.

In the third place, we could not notice this implement in our *Encyclopædia*, because that work was printed before the harrow was brought into notice. We first saw it mentioned in Fleming's *Farmer's Chronicle* in February 1825, and our work was published in June of that year. Finlayson's plough (the best Scotch plough), was known before, and is accordingly noticed by

us (Enc. of Agr. § 2504.) This, we hope, will satisfy R. W., and we may take this opportunity of assuring him and all our readers, that every improvement or discovery, whether foreign or domestic, made since the printing of our Encyclopædia, shall regularly, as they appear, be brought forward in this Magazine, which, as we have before stated, is intended as a perpetual supplement to our other works.

Mushrooms. In answer to a complaint by S. W. R., that mushrooms grown on Oldaker's plan are frequently tough and bad-flavoured. "The manure for the beds should be in a moist state, well worked and sweated before introduced into the house for making up;—the beds are made in the usual way. Let them remain till the heat is quite gone out of them, when they should be spawned and moulded up with fresh maiden earth to the depth of 3½ or 4 inches, and let them stand without water till the spawn is working freely, when a good supply should be given, and the beds kept regularly moist so long as they continue to produce mushrooms. By the above treatment, they may be obtained as fine as from the old method or from the natural pastures." (G.)

Pyrolignous Acid.—In answer to G. G. of Sheffield, as to the mode of extracting this liquor from wood, we have taken the following from "Monteath's Forester," published in 1822. The kind of coppice-wood used is chiefly the spray, or brush-wood, and any species of tree or shrub will do, excepting those of the pine and fir tribes. In the neighbourhood of Glasgow, where there are extensive works for its distillation, it sold in 1819 at from 1*l.* 2*s.* to 1*l.* 10*s.* per ton; where there are no public works, the following apparatus may be erected, and the liquor sent to any distance in casks.

The boiler (fig. 67 *a.*) must be of cast or malleable iron, and should be from five to seven feet long, three feet wide, and say four feet deep from the top of the

inches square in thickness, and of any length, so as to go into the boiler at the door. When full, the boiler door (*b*) is properly secured, to keep in the steam; when the fire is put to it in the furnace below, and the liquid comes off in the pipe above (*d*), which is condensed in a worm, in a stand (*e*) filled with cold water, by a spout (*f*), and empties itself, first into a gutter below (*g*), and from that it is let into barrels, or any other vessel; and thus the liquid is prepared. One English ton weight of any wood, or refuse of oak wood, will make upwards of eighty gallons of the liquid. There is also a quantity of tar extracted, which may be useful in ship-building. The pyrolignous acid is used by bleachers and calico-printers, and by chemists for making a transparent and very superior domestic vinegar.

Doub Grass.—“Sir,—In the eleventh volume of the Asiatic Researches, Captain D. Richardson gives an account of what he calls the Doub grass of

India, from which it appears to be deservedly held in high estimation by the natives of that country. And it must be matter of regret to every lover of agriculture and rural economy in this country, if this valuable plant has ever had a fair trial, that it cannot be acclimated in England, where it might probably yield both profit and pleasure to all its admirers. Captain R. says, "This is probably one of the most common, useful, and beautiful grasses in this (*India*), or any other country, and it is held in high veneration by many tribes of Hindoos. A natural velvet carpet may at any time be formed of this elegant grass in the space of two or three weeks, by merely chopping it in pieces, and sprinkling these mixed with earth on prepared ground. In this way the banks of rivers, public roads, fortifications, ditches, garden-walks, and marginal borders, are frequently prepared in India, upon principles which unite expedition, elegance, and strength in one verdant sward, which, to people unacquainted with the rapidity of vegetation in these climes, has almost the appearance of enchantment. (See a Brussels' practice, p. 227.) — Perhaps Mr. Sinclair or some other of your correspondents can give farther information respecting this grass, and the name whereby botanists distinguish it.

"I am, Sir, &c.

S. LAUDER."

"Glasshampton Garden, near Worcester, Nov. 8th 1826."

The doub-grass is the *Cynodon dactylon*, Rich., Creeping Dog's-tooth grass; (*Panicum dactylon*, E. B. 850. Creeping panic-grass.) A. B. Lambert, Esq. (Trans. Lin. Soc. vol. vi.) first pointed out the identity of the *Panicum dactylon* (fig. 68.) with the doub-grass of the Hindoos. The seeds of this highly-celebrated grass in India were communicated to the Duke of Bedford, from the East Indies, by the Marquess of Hastings. The seeds were sown in the experimental grass garden at Woburn Abbey, where they vegetated readily, and produced plants which flowered the second year from seed. These perfected seed in the month of October, and the plants raised from this seed the following spring differed in no respect from those the produce of the Indian seed. Sir William Jones observes, "that every law-book, and almost every poem, in Sanscrit, contains frequent allusions to the holiness of this plant; and, in the fourth Vede, we have the following address to it, at the close of a terrible incantation: 'Thee, O Darbha! the learned proclaim a divinity not subject to age or death; thee they call the armour of India, the preserver of regions, the destroyer of enemies, a gem that gives increase to the fields: at the time when the ocean resounded, when the clouds murmured, and lightnings flashed, then was Darbha produced, pure as a drop of fine gold.' — Again, 'May Darbha, which rose from the water of life, which has one hundred roots, and one hundred stems, efface one hundred of my sins, and prolong my existence on earth for one hundred years!'" — (*Hortus Gramineus Woburnensis*, p. 292.)



Strawberries.—"Sir—As I prefer strawberries to almost every other fruit, I should much wish to have a small, yet choice selection; namely, two sorts for the earliest crop, two for the main-bearing crop, two for the latest crop, and about two or three for size and fancy. My object is to prolong the season for bearing as much as possible. There are two requisites which I never mean to overlook,—good bearers, and fine flavour, not merely for show, but for use, especially for the main crop. I presume March is the best time for setting the plants? — B. C."

Early Crop. — The Duke of Kent's Scarlet, and Grove End Scarlet, are both exceedingly productive, and ripen a few days sooner than the Old Scarlet, to which, however, both of them yield in point of flavour: the Grove End is probably better flavoured than the Duke of Kent's Scarlet. The Roseberry is an excellent bearer, and the flavour is tolerably good. The American Scarlet is the latest of those deserving cultivation, with the exception of Alpines.

For the main-bearing Crop, Keen's Seedling, and the Old Pine; the Downton, although inferior to the Old Pine in flavour, merits a place in a select collection. Probably the best for *size and fancy* is Wilmot's Superb. To complete the selection, B. C. may add the Prolific Hautbois and the Red Alpine. The best place to procure the foregoing plants genuine is at the London H. S.'s Garden; next to that, Mr. Wilmot's at Isleworth, or Mr. Knevett's at Turnham Green. Few nurserymen now cultivate strawberries, since so many have been distributed by the H. S. In clayey loam, March is the best time to plant; but having the ground thoroughly prepared is of more importance than adhering to a week, or even a month in planting.—(*J. B.*, Dec. 20th, 1826.) From this communication, and Vol. I. p. 421., B. C. will be able to decide.

Improving the Alpine Strawberry; in reply to R. S., (Vol. I. p. 471.) It is not unusual to see Alpine strawberries of a tolerable size when carefully cultivated. Several attempts have failed to improve them by cross impregnation, and, although they are invigorated from seed, it does not seem to be of long duration. — (*J. B.*, Dec. 20th.)

Laying out and planting small Gardens. — "Sir — I am extremely pleased with your Magazine, and doubt not it will do much good, particularly if you continue to devote a fair proportion of its pages to the consideration of such subjects as will be generally useful to the middling classes of society, through whom they are more likely to be made generally known among the poor than by their more opulent neighbours.

"The Clergy, I doubt not, you will find powerful supporters, and they will readily communicate useful knowledge as you supply them. Permit me to request information on a subject that will be useful to thousands besides myself.

"When gardens are not originally laid out and planted by intelligent persons, there is little or no attention paid to the kinds of fruit-trees, nor are they so selected as to ensure a succession of fruit through the greater part of the year, and in consequence there is a short feast, followed by a very long fast. This is a tender subject for me, my predecessors having left me six large pear trees; viz. three Chaumontel, and three Swan's Egg. I have certainly an immense quantity of fruit, but they come in and go out nearly at the same time. An equal number of trees of different kinds, *properly selected*, would supply me handsomely for some months. The same judgment has been displayed in apple trees.

"If you could furnish a plan for a moderate-sized garden, and add a list of the best apples, pears, plums, cherries, grapes, &c., you would render incalculable service to a large proportion of persons possessing gardens.

"I should like to know the kinds of pears you would recommend for budding or grafting on standard trees, as I purpose to do so to some extent, and vary the produce of my present trees."

"I am, Sir, &c.

ZIG ZAG."

"Forest, Dec. 16th, 1826."

The following pears will succeed as standards about London: perhaps grafts of some of the sorts may not be easily procured without sending to Brussels, which, however, can be done through any London nurseryman. The selection is made chiefly from above 200 sorts, characterized by Parmentier (Hort. Trans. vol. v.) as very good, (v. g.); good, (g.); and moderate, (m.) The great value of the selection is the circumstance of all the sorts ripening as standards, at least in the climate of London. Those marked (*) we have tasted, and know to deserve the characters given by Parmentier and Mr. Braddick.

July. Muscat Robert, (m.) * Gros Muscat, (g.)
Aug. Epine verte d'été, (g.) Jargonelle, (v. g.) *
Autumn. Bergamotte Silvanse, (g.) * Beurré rouge, (g.) * B. verte, (g.)
Sept. Bergamotte Paysans, (v. g.) * Rousselet de Rheims, (v. g.)
Sept. and Oct. Fondante d'Havay, (v. g.) Bon Chrétien d'été, (g.) *
Oct. Fondante de Brest, (v. g.) Epine d'hiver, (g.)
Oct. and Nov. Beurré Spence (v. g.) * Marie Christien, (v. g.) *
Nov. Beurré Caplaumont, (v. g.) B. Crappaux, (v. g.) B. d'Aflighem, (v. g.) Marie Louise, (v. g.) Napoleon, (v. g.) * Urbaniste, (v. g.) *
Dec. Beurré Diel, (v. g.) Pastorale, (g.) Présent de Malines, (v. g.) *

Winter. Josephine, (v. g.) Poire Canning, (v. g.)
Dec. and Jan. Gloux Morceaux, (v. g.) * Roi de Rome, (g.)
Jan. Bezi Vaat, (v. g.) Louise Bonne, (g.) *
Jan. and Feb. Passe Colmar, (v. g.) * P. C. gris, dit Précel, (v. g.) *
Feb. and March. Orange d'hiver, (m.) l'Incommunicable, (m.)
March. Duchesse de Mars, (g.)
March and April. Gros Romain (m.) Bergamotte de Pâques, (m.) * Beurré Rance, (v. g.) *
April. Fondante Batave, (g.) la Favorite, (g.)
April and May. Muscat Allemand, (m.) Bezi de Calsoy, (g.)
May and June. Bergamotte de Pentecôte, (g.) * Kameller, (m.)

With respect to the plan of a garden, so much depends on situation and local circumstances, that we fear we could be of little use to our correspondent, unless we had the data and desiderata of his case; but we shall consider what can be done, and we invite our contributors to do the same. We may take this opportunity of stating, that we can at any time refer such of our readers as may desire it, to contributors, or good practical gardeners, who would be happy to be employed at a moderate charge to give plans for gardens, or to lay out grounds in any part of the country.

A selection of dessert apples, cherries, plums, &c. for a small garden is much wanted. We could supply it from the published lists; but as we could not add much to what is already in our Encyclopedia, we would rather see it done by some experienced gardener. We should like to have lists for the Orkneys, Cornwall, and all the intermediate climates: Mr. Robertson of Kilkenny can supply us for Ireland. We have given the above list of pears without hesitation, because, the good sorts being mostly new, we, through our friends Mr. Braddick and Mr. Oldaker, know as much about them as many practical gardeners. The knowledge of French and Flemish pears is but in its infancy; in proportion as it spreads, the enjoyments of the dessert will be increased and prolonged.

Select Gooseberries. — "I have many large and good sorts of gooseberries; but the following kinds are the most useful, and I consider the number sufficient for a small garden.

"ISAAC OLDAKER."

Rumbullion; small yellow, used for bottling.
Keen's Seedling; rough red, grows dwarf.
Warrington; rough red, grows upright.
Lancashire Lad; rough red, very large and fine.

Alcock's Duke of York; rough red, large and fine.
Cheshire Lass; rough white, early and large; the best I know for gathering green for tarts, as it comes earlier to a size sufficient for that purpose than any other gooseberry.

The whole of our correspondent's desiderata, and especially the lists of fruits, we recommend to practical readers and contributors. — *Cond.*

Dissecting Leaves. — "Sir — I wish to be informed by what process leaves can be dissected. The general method is by keeping them under water; but I imagine there must be some quicker method of decomposing the green part. I have lately seen very perfect specimens both of leaves and flowers, or rather parts of flowers. I have the honour to be, &c.

"Rectory, Milton Bryant, Woburn, Bedfordshire."

"J. F. MANSFIELD."

The most beautiful specimens of dissected leaves which we have seen were prepared by Mr. Crowe of Kensington, (p. 232, and part iv.); but as he makes it an object of profit, he declines

entering into the details of his process. Dutrochet discovered that hot nitric acid rendered fragments of plants transparent, and dissolved the cohesion of the cellular tissue; but we have had several experiments on leaves made with this and other acids, and also with alkalies, without having been able to come to any useful conclusion with reference to handsome skeletons. As these experiments are still in progress, we may report on them at some future time. In the mean time, the answer of an eminent botanist, to whom we put our correspondent's query, is—patience and common water. — *Cond.*

New Garden. — “I am making a new garden at present; the soil is a very strong clay, being part of a field which was well fallowed, and bore an excellent crop of wheat, and hay crop afterwards. There is one very good spot of improved soil to some depth, but the next is strong red clay, approaching to till. Lest trenching should bury the good below, I think of forming the space into beds, six feet wide, with trenches of the same breadth, and then crossing the beds one or two years, and fallowing and green cropping the trenches for the same time, and afterwards reversing them. Do you approve of the plan?” “W. M.”

“Argyllshire, Jan. 28th, 1827.”

The plan is undoubtedly good, as far as respects the soil; but unless it is confined to the interior of the compartments, it must interfere with the completion of the garden as a work of design and form, which in our eyes would be great drawbacks to enjoyment. As nothing satisfactory can be done with a kitchen-garden till the permanent surfaces and lines, such as those of the walls, walks, borders, and fruit-trees, are laid out and fixed, and as this cannot be done while our correspondent's fallowing operations are in progress, we think we should prefer what is called ridge-trenching, or trenching and mixing top and bottom together, (*Enc. of Gard.* § 1870—1.); but we should be glad to hear the opinion of some of our readers on the subject. — *Cond.*

Amaryllides. — “Sir—Perhaps some correspondent of your valuable Magazine will have the goodness to inform me of the particular culture necessary for the *Amaryllis vittata*. It has, I understand, never flowered in any garden of this neighbourhood, although planted in the compost generally recommended, and kept with every attention in a good greenhouse. One instance I am acquainted with, where it has failed nearly sixteen years. I have referred to your excellent work, the *Encyclopædia of Gardening*, but it more especially treats of the *Guerney Lily*, which flowers in autumn; I more particularly request information concerning *Amaryllides* in general, and what the treatment is which deters and promotes their flowers. I am, Sir, &c.”

“Calton, Jan. 31st, 1827.”

“JOSEPH GROOM.”

A Whitewash for Walls and Glasses. — “I shall be obliged to any of your correspondents who will inform me of a proper composition for washing the walls and flues of hot and greenhouses. I have repeatedly done mine over with whiting and strong size; but in a few weeks it comes off, and is a great nuisance when walking round, by soiling the clothes.”

“A subscriber and well-wisher, M.”

“What is the best Method of Packing Seeds for sending to countries across the Line, as to the East India, New South Wales, &c.? to both of which parcels of seeds are almost daily sent, and seldom without disappointment. The general method is to pack them in tin cases, to which some object, as the metal is more apt to get heated than wood. Also which is the best part of the vessel to have them stowed in? Some say if they are placed below the level of the water, not a seed of them will grow. This is a subject that is very little known, and one upon which it is not easy to obtain correct information. You will render a great service to the public in general, if you can give the desired information, and the earlier the better, as many will be sending seeds abroad in the spring, especially if the expected emigration to Canada take place.”

“London, Feb. 8th, 1827.”

“A CONSTANT READER.”

Worms in the Buds. — “Sir—I am at a loss to know if the American blight, (p. 49.) is the same disease with which the fruit-trees under my care have been suffering for the last six or seven years, and which I will endeavour to describe. As soon as the buds open, on moving any of the leaves, may be seen one or more small green worms placed in the heart of the bud: at first, they are not larger than the point of a pin, but gradually increase to about three quarters of an inch in length, and thick in proportion. Being placed in the centre of the bud, I cannot discover whether they are actually engendered in the bud or not. Soon after the insect makes its appearance, the buds affected assume a brownish colour, having a small hole at the side; but whether the insect enters the bud at first by the hole, or perforates it afterwards, I cannot find out. I am inclined to think the latter is the case. Their effect when they spread over the tree is most destructive, stripping it entirely both of leaves and blossom, and thus rendering the fruit-tree an object most unseemly to look upon, at a season when it should be most ornamental. I have tried several plans to destroy them, such as lime-water, soft soap, tobacco-water, &c. &c., with little effect, the insects being so enclosed in the bud, and wrapt in the leaves, that there is no getting at them. If any of your numerous correspondents can point out a way of exterminating this most destructive enemy to fruit-trees, they will greatly oblige your constant reader,”

“DAVID TAYLOR.”

“Belmont, near Aberdeen, Feb. 7th, 1827.”

Roses. — “I am desirous of trying this season a variety of experiments in budding Roses, particularly the double yellow, and I would be glad to see in your work instructions for budding in the French or scollop manner of spring budding.—[These will be found p. 192.] I should also be obliged by information as to the best manure for rose trees, &c., on a stiff brick clay, of which the soil in this neighbourhood chiefly consists, the effect of rotten tan on such a soil, mixed or not with lime, the effect particularly of wall-dust on it, also of bones, ground or unground.”

“Bath, Feb. 6th, 1827.”

“CHRISTOPHER CRABSTOCK.”

Galaridia bicolor, Asclepias tuberosa, and Oenothera caespitosa. — “I should be glad if any of your correspondents would point out the best methods of cultivating and keeping through the winter the three above-mentioned plants, having had very poor success with them myself.”

“Manchester, Jan. 5th, 1827.”

“A CONSTANT READER AND SUBSCRIBER.”

Soap Suds. — “Sir—As my employer is a bleacher, I can command a large supply of soap suds; I should therefore be glad to know what are the qualities of soap suds? how far useful as a garden manure? whether suitable for vine borders, and what time of the year is best to use them?”

“Old Basford, Jan. 13th, 1827.”

“E. M. MATHER.”

Movable Cucumber bed. — "Is there such a thing to be purchased as an iron bottom, on which to place a cucumber frame and mould, and, having done so, to support this frame and mould by props, and apply the dung underneath instead [of at the sides]? Such an arrangement, I think, would save gardeners a good deal of trouble, as the dung would never need to be worked, and less dung would suffice than by applying linings; but perhaps some of your readers have tried something of the kind." "THOMAS HAWKINS."

"*Hans, near Gloucester, Jan. 1868.*"

Home-made Wine. — "The time for making wines from our summer fruits being approaching, and wishing to possess some more certain rule for ascertaining the gravity of the fermenting liquor than I have yet had, and at the same time not being willing to purchase an expensive saccharometer, I beg to know whether Mr. Allen, (*Gard. Mag.* vol. i. p. 83), has attended to the suggestion of making such an instrument at 10s. or 12s., and, if so, where it can be obtained?"

"*Norwich, Jan. 30th.*"

"N. S."

"A *Provincial Horticultural Society* is very much wanted in this part of the country, (*Staffordshire*); but we do not know how to set about establishing one. A hint how to proceed from you, or any of your correspondents, would be thankfully received."

"*Finsley, Jan. 12. 1867.*"

"C. F. W."

ART. VII. Obituary.

Died in June last, *Thomas Andrew, Esq.* of Coggeshall, Essex, an enthusiastic and skilful florist, who succeeded in collecting most of the finest foreign and British varieties of *Soriet's* flowers. Notwithstanding an extensive business as an attorney, he contrived, the greater part of the summer, to spend from ten to twelve hours a day among his flowers. Having built a handsome house, laid out the grounds with great taste, and got together an astonishing assemblage of tulips, ranunculuses, anemones, and geraniums, he was called suddenly from his family and friends, in his fifty-fourth year, to their great grief and irreparable loss.*

* On the 28th of January, *William Griffiths, Esq.* F.L.S., H.B. of South Lambeth, many years a distinguished cultivator of bulbs, and from whose collection various plants have been figured in the *Botanical Magazine* and *Botanical Register*.

Early in February, *Alexander Henderson, Esq.* nurseryman, and a few years ago Lord Provost of Edinburgh; an excellent private character, and the first British gardener who has filled the situation of first city magistrate.

* The flowers have been placed under the judicious management of Mr. Baren, of Sadron Walden, and will be sold in bloom next summer, on a day that will be noticed in our advertising department.

PART IV.

ADVERTISEMENTS CONNECTED WITH GARDENING AND
RURAL AFFAIRS.ANATOMISED PLANTS AND MODELS
OF ESTATES.

MR. F. CROWE informs the Public, that he continues to prepare Collections of Anatomised Plants, which, from a process peculiar to himself, he is enabled to present in a more perfect and elegant manner than has hitherto been done. These preparations are well adapted either for the cabinets of men of science or curiosity, or as ornaments to the study.

He C. models other particular landscapes, with all the objects, as trees, buildings, ruins, rocks, animals, &c. in relief, or he will undertake to model the whole of an estate or town of country of any extent.

Various specimens of anatomised plants and modelled landscapes may be inspected or purchased at his apartments in Kensington.

Mr C has for sale a valuable collection of numerous fossils, commonly called organic remains of a former world. He also has up numerous in the last style of elegance with natural and artificial ornamentation. Orbits work made up in a superior and natural manner. Magnetic apparatus fitted up with new and beautiful objects. Models of ancient monuments made, and philosophical instruments and mineral boxes required.

18. Holland Street, Kensington,
January 22. 1857

BREAKING TULIPS

T. HOGG begs to state, in answer to the several inquiries made in consequence of his letter published in the last Number of the Gardener's Magazine (p. 64) that if he can obtain Twenty Subscribers, of One Guinea each, on or before the 1st of May next, he purposes to divulge his new method of breaking Breaker Tulips. Printed directions will then be ready for delivery to Subscribers.

He takes this opportunity of calling the attention of the Amateur Florist to a new and excellent Petcher, named "Petcher," strongly marked with bright violet, on a deep yellow ground, also to a favourite French Canna, "Canna de Paris," broadly banded with deep red, and to that most beautiful and perfect plant, "Barrett's Camperdown."

Peddingham, March 1. 1857

ORNAMENTAL CONSERVATORIES AND
GREENHOUSES

HORWOOD and OLIVER, Painters and Decorators, beg most respectfully to inform the Nobility, Gentry, and the Public in general, that they have a large Stock of Stained Glass of various splendid Colours and Patterns, well calculated for ornamental purposes, which they can offer at little more than the price of common glass.

Manufactury, No. 1. Maddox Street, Regent Street.

Glass cleaned and hung for the Trade

GARDENER AND BAILIFF.

A MARRIED MAN, without In-
convenience. He perfectly understands the management of both departments, and can have the best recommendations. He lived nearly three years in his last place.

Letters addressed, post paid, to A. G. at Messrs. Ballman's Nursery, Upper Tooting, will be immediately attended to.

Just published, Price 10s. 6d. in boards.

THE ART OF PROMOTING

the GROWTH of the CUCUMBER and MELON, in a Series of Discourses for the first time to be adopted in bringing them to a complete state of perfection. By Thomas Waverley, many years Secretary to Mr George of Mashney, and now with W. Agar, Esq. Elm Lodge, Camden Town.

London: Published by Harding, 21. St. James's Street, and sold by Orange and Dolly, Stationers, Covent Garden; Mason and Son, Stationers, Fleet Street; Warner and Co. Stationers, Cornhill; Garway, Stationers and Booksellers, near Maryland Place, Strand; Bunn, Stationers, Islington; Fraser, Stationers, Lamb Bridge Road; Bunn, Stationers, Fenchurch; Poulton, Stationers, Whitechapel; and by the Author, at Camden Town; and also by Mr. Rogers, Stationers and Booksellers to the King, Southampton.

NEW WORK ON TULIPS

To be published in Monthly Numbers, on Royal 8vo. Price 1s. 6d. each.

THOMAS BUTLER begs most respectfully to inform his Friends, and all those interested in the Cultivation of this flower, the Flower, that the First Number, containing of Three choice Varieties, in a, with their History, origin, culture, and highly coloured, specimens, is at length ready

to be accompanied with a complete description of the particular regards colour, height, time &c. Notice also will be taken of under two different names.

It is proposed to give correct Portraits of all the choice and valuable Tulips in cultivation, and as nothing of the kind has been attempted before, though long wished for, he hopes it will receive the cordial support and patronage of all Florists, to whom it is offered as a standard book of reference, and a guide to direct them in the choice of good flowers.

Specimens may be seen at Mr. R. Martin's Lithographic Establishment, No. 124. High Holborn, London, and at most of the Bookellers in the Town of the United Kingdom, notice of which will be given in the provincial papers.

Crownhill Place, Holloway, London,
March 1. 1857.

THE
GARDENER'S MAGAZINE,
MAY, 1827.

PART I.
ORIGINAL CORRESPONDENCE.

ART. I. *Observations on the Management of the finer Sorts of French Pears, especially those which are usually termed Shy Bearers ; in the first Place stating Objections to the present Modes of Training ; and, in the second Place, pointing out a Method by which the Wall may be filled much sooner than by any Way in use at present, and likewise by which much more Fruit may be obtained.* By F. N. B. .

ALTHOUGH there are many fanciful ways of training pear trees, the only plans that can be termed by any means general, and that deserve to be mentioned, (the others being useless as well as fanciful,) are the Fan, the Horizontal, and a plan described in the Memoirs of the Caledonian Horticultural Society, vol. i. p. 84., combining both. (*E. of G. fig. 386.*) To the fan, the objection on walls not exceeding twelve feet is very great, but on walls of greater height, the evil, although lessened, will by no means be obviated. By this mode of training, the centre branches soon become very strong, and the side ones proportionally weak ; consequently one fails to produce a good crop for want of sufficient nourishment, and the other from having it superabundantly : the centre branches soon reach the top of the wall, when they must be shortened ; they then throw out such a profusion of luxuriant shoots, that no flower buds can any longer be formed ; the crop from this time, therefore, consists of a few small fruit on the side branches. Some gardeners train in a few young shoots between the old ones, which is an improvement ; but still the form of the tree remaining the same, the principal objection is unremoved.

The Horizontal is certainly the best mode of training a pear tree, as by this means the sap is more equally distributed than it can be in any other way. There are, however, two objections to this plan. The first is the length of time the tree requires to fill the wall; by the present mode of pruning only one pair of branches can be annually produced in a handsome manner. Some gardeners talk of obtaining three pair each summer, simply by leaving the leading shoot three feet, or for small sorts of pear twenty-seven inches long; and they add, if some of the eyes remain dormant where branches are wanted (and most assuredly they will), you are to cut notches just above them, and they will not fail to produce shoots in the following summer. This will certainly very often succeed, though not always; but supposing it should do so, the result must be a very unsightly tree: indeed, should all the eyes break naturally where branches are wanted, the tree would never be handsome, because the eyes which are to produce the upper pair of branches will always start the strongest, and the lower ones, if they break at all, will produce weak shoots, and as they will each year grow in proportion to the first, the consequence must be a very irregular and ugly tree.

The other objection is the small quantity of fruit produced. As soon as the branches have reached to any considerable distance, say for instance fifteen feet on each side, they seldom produce blossoms nearer the stem than half that distance, and often not more than one third; in other words, the tree seldom produces more than half or one third of a crop, even if all the shoots except the leader of each branch are pinched off within an inch or two as they appear, and as far as practicable entirely cut out in the winter pruning, and this is certainly the best way of treating a pear tree; but if the superfluous shoots are suffered to grow in the summer, and are cut down to two or three eyes in the winter, producing after a few seasons tufts of wood resembling willow stools, they will not usually produce one fourth of a crop. The plan of cutting out every other branch from a full grown tree within a few inches of the trunk, and from the remaining part of each branch so cut off, training in a strong shoot which in a few years is to occupy the place of the lost branch, nailing in young wood between the remaining horizontal branches which is to be cleared away, as the shoot from the amputated branch advances, is a great improvement, and for a short time will be found very advantageous; but as the tree advances to its former shape, the superiority over the usual way of training a horizontal tree becomes less and less; the small branches

being fewer in number, till it is entirely lost. The branches which in the first place were left, are now in their turn to be taken off, as the others were in the first place, and the same system is to be again followed: good crops will once more for two or three years be obtained, which will, however, after this time rapidly decrease, from the cause already named. Thus you have alternate advantages and disadvantages; on the whole, however, much more fruit will be produced than by the old mode of horizontal training. From this plan the one shortly to be described is in some measure taken, it will however be found materially different, and greatly superior.

The plan, combining both the fan and horizontal, commencing in the former, and terminating in the latter, possesses the beauty of neither; it is, nevertheless, superior in one respect to the first, and in another to the last. It is better than the fan, because after a sufficient number of branches are obtained, no terminal shoot is of necessity shortened; and it is preferable to the horizontal, because the wall is much sooner filled; but this advantage is not of so much importance as to make amends for its want of beauty, especially as in productiveness it will be found very little superior. For although the wall will be sooner filled, yet from the shoots being shortened till the desired number of branches are obtained, it will come very little earlier into a bearing state. If the average of a given number of years, say ten or fifteen, were taken, the fruit produced on the shy-bearing sorts by any of the foregoing plans would be found not to exceed half the quantity which may be obtained by the way of training about to be described.

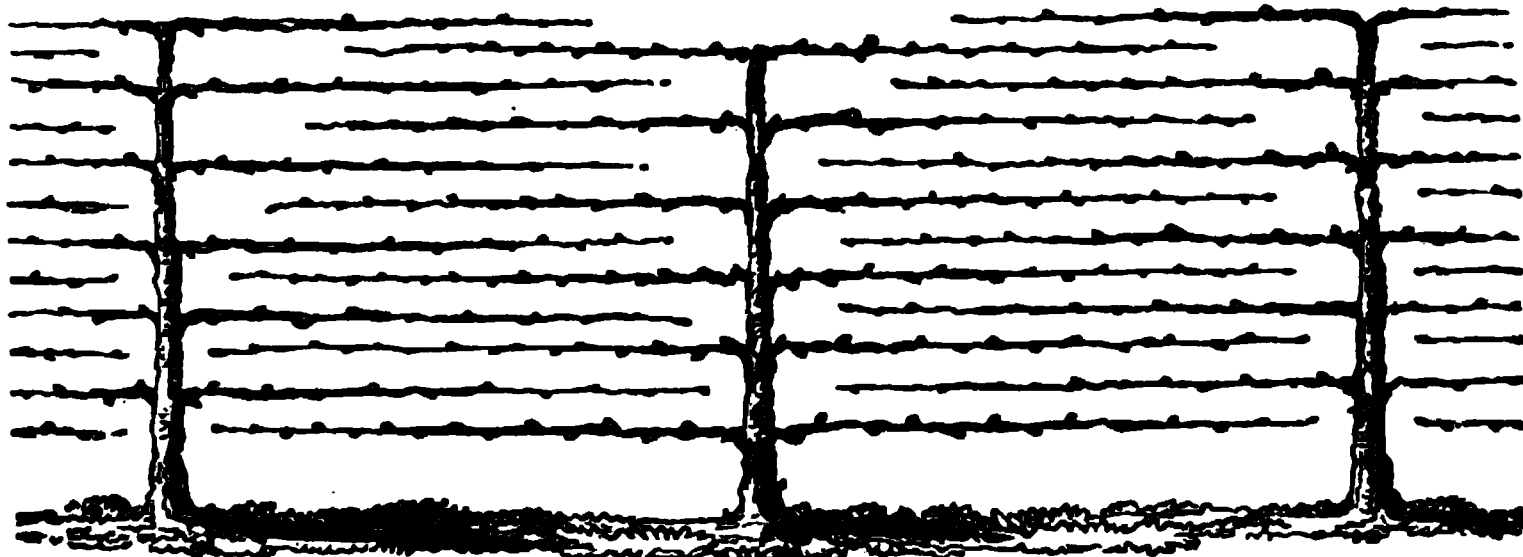
~~In the first place, having prepared the border,~~ plant the trees against the wall, at the distance of fifteen feet from each other. If they have three shoots properly placed, they may all be retained; we will, however, suppose each tree to have only one strong healthy shoot. In the spring the first tree is to be headed down within nine inches of the ground, the next is to be left one foot nine inches high, the next to that, nine inches, and so on alternately, till you get to the other end of the wall. In the summer train three shoots from the three uppermost eyes of each tree, rubbing off all the rest; nail in one to the right, one to the left, and the other perpendicularly. The two side branches should not be trained in a horizontal position till the second year, for being somewhat elevated for a short time will increase their vigour. In the following winter the centre shoot of each is to be cut off two feet above the first pair of lateral branches. In the next summer

the three top buds are to be trained, one on each side, perfectly horizontal, and the middle one upright: should the centre this season grow vigorously and advance two feet before the end of June, top it at that height with the thumb and finger. Three shoots may probably start from the three upper eyes; if so, nail them in an easy position, and bring them to their proper places in the winter pruning; but most probably only two will break. In this case, as soon as they are six inches long, train them both on the opposite side from which you want a third shoot, and rather lower than the horizontal line: this will cause the next bud below the two shoots already obtained to start. As soon as this advances a few inches, restore the shoot from the top bud to an erect position, and the other about half way between the horizontal and perpendicular line; observing if one of the side shoots gets the advantage of the other to depress the strong or elevate the weak as occasion may require, by which means both will be kept of equal length. If by the autumn the centre shoot has not advanced two feet, or if it does not appear to have ripened, cut the three summer shoots off within half an inch of the place from whence they sprang; there will then be an upright centre two feet above the second pair of horizontal branches, which will not fail to push vigorously the next spring; and although in this case only one pair of branches will be produced this season, the tree will be much benefitted from having the upright shoot topped, as the sap by this check will be forced into the horizontal branches below, which are often starved by the prodigious and in a great measure useless growth of the centre: all superfluous shoots are to be pinched off within an inch or two as they appear, and, as far as may be, (without leaving the branch absolutely bare,) entirely cut out in the winter pruning. This treatment is to be repeated till those trees which have their first pair of horizontal branches within nine inches of the ground arrive within two feet or eighteen inches of the top of the wall: these trees are to be considered permanent: those which have no branch, till they are one foot nine inches high, are for a temporary purpose only, and they may have a pair of branches within four inches of the top of the wall. In ten years, we will suppose on a twelve-foot wall, most of the branches will reach twelve or thirteen feet from the stem. The wall will, therefore, present somewhat the appearance of the following figure. (*fig. 69.*)

Hitherto it is obvious, that as we have doubled the number of trees, and each tree has produced as many, or, perhaps, more branches capable of bearing fruit, and those owing to

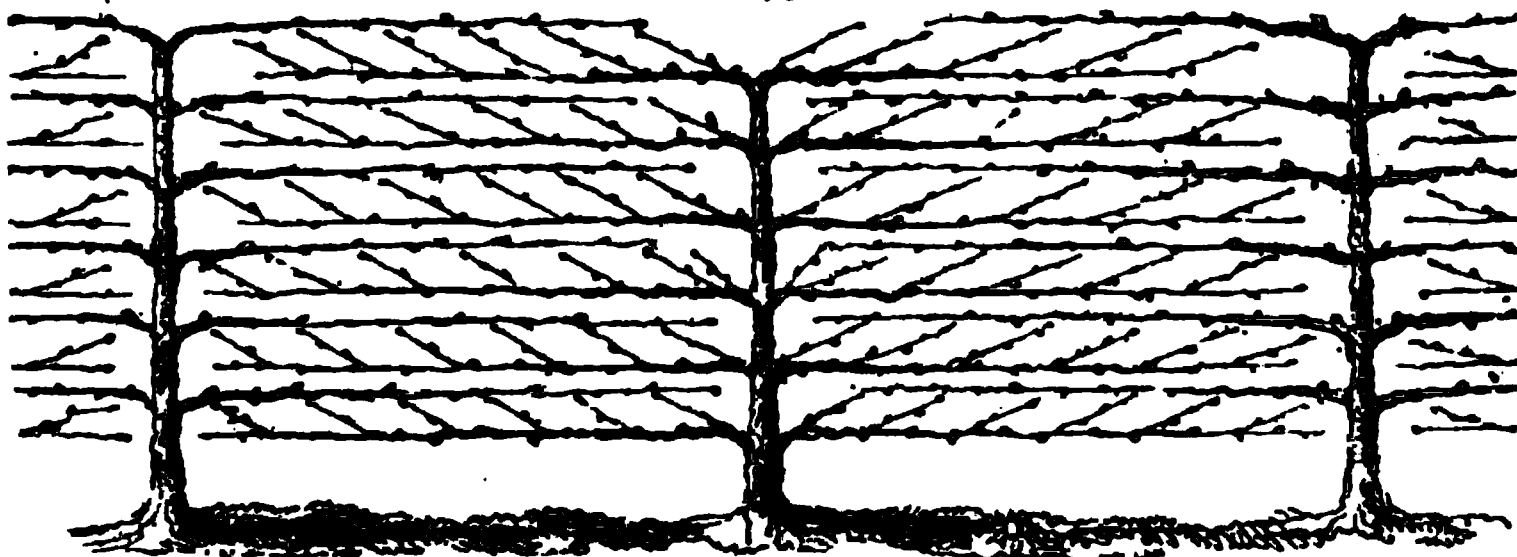
stopping the leader longer and stronger than usual, so we must up to this time have double, or more than double, the usual quantity of fruit. After the temporary trees are re-

69



moved, the crops will be still larger. Riders would not have answered the same purpose, as they would have already interfered for the last two or three years with the principals, that is, on a wall not exceeding twelve feet; and on this plan the temporary trees are to be retained three or four years longer, during which time they may be expected to produce considerable crops. The extremities of the horizontal branch being now within a foot or two of the stem of the next tree, the management of the permanent trees is to be altered. Instead of pinching off all shoots as they appear, at every fifteen or eighteen inches all along the horizontal branches, retain a well-placed shoot, pinching off all the rest as before; train these selected shoots in an easy slanting position upwards towards the branches of the temporary trees. Next year continue to train them in the same direction; and in order to give them more room, elevate the branches of the temporary trees six inches above the place they have hitherto occupied (*fig. 70.*). The third year the shoots will most likely show

70



blossom: the free-bearing sorts will do so in two years; but it must be recollected, we are speaking exclusively of the shy

bearers. If plenty of blossom appears, the temporary trees may now be taken up and planted in other situations, otherwise they may remain another year. After the temporary trees are removed, the young shoots which, we will suppose, are now fully furnished with blossom buds, may be trained in a direction sufficiently sloping upwards for the terminal bud of each to be within four or five inches of the horizontal branch above (*fig. 71.*). If they show a disposition to grow

too strong they may be deeply notched, or a ring may be made round such as require it about the eighth of an inch wide. In either case, let it be close to the branch from which the shoots spring. As they become diseased or worn out, or have produced long spurs, train in a young shoot by the side of any it may be proper to displace, and after the second year cut the old one out. In case a tree, after it has filled the space allowed it, continues very luxuriant in growth, recourse may be had to the usual methods of checking it, either by cutting the roots, or sawing the stem half or two thirds through just below the surface of the ground, or deep notches may be made on each side with the chisel; a single tree may, of course, be treated according to this plan.

There can be no doubt, by adopting this mode of treatment, the Colmar, Crassane, and other shy-bearing kinds of pears, would yield for a very long period of years abundant crops of large, fair, and fine-flavoured fruit.

The temporary trees, if taken up with care, will certainly grow, and be found very valuable: they may be either planted against another wall, or if of sufficiently hardy kinds, treated as espaliers, cutting off the two or three upper pair of branches; in either case, young shoots are to be trained in between the old ones, as already directed for the permanent trees: should you have a wall with an aspect not sufficiently good to ripen the fruit of these removed trees, or should they be of those kinds which will not come to perfec-

tion as espaliers, they will nevertheless still be valuable in this case. After they have been removed a twelvemonth, treat them according to Mr. Knight's mode of changing the sort; that is, leave the horizontals at very nearly the full length, but cut off all the spurs, leaving only bare poles at every twelve, fifteen, or eighteen inches, according to the growth of the sort you intend to introduce. On the upper side, all along the branches, make a notch a little deeper than the bark: it may be done by two cuts with a sharp knife, the side nearest the trunk being perpendicular, the other sloping; the graft may then be introduced by the common mode of crown-grafting; train the shoots from the grafts as before directed. In two years and a half most kinds will produce an abundant crop, and the trees will be very nearly as large as those on the wall from whence they were taken; thus having an advantage over young trees of at least ten years.

Should this method of treating pear trees be objected to by any one who wishes to have the Colmar, Crassane, and other shy-bearing kinds, in their gardens, they may possibly not dislike the following method, by which they may get as many of the rare sorts of French pears as are usually obtained on the same space of wall, with the addition of an equal quantity of those kinds of pears which are produced on free-bearing and moderate-growing trees, and at the same time avoid that most disagreeable sight which a tree bearing fruit only on its extremities always presents. By the common mode of pruning and training, the shy-bearing kinds will invariably be found without blossom buds for the first six or seven feet from the stem of the tree; therefore, any one determined on training according to the old horizontal plan should plant those sorts which are known as moderate growers and free bearers, many of which are very good pears. As each pair of horizontal branches arrives at the distance of six or seven feet from the stem of the tree, whip-graft them, with a well-ripened short-jointed shoot taken from the extremity of a full grown Colmar, Crassane, or other shy-bearing sort you may wish to cultivate, taking care to preserve the terminal bud of the graft: the upper branches should not be grafted nearer the stem than the lower, for although at six feet from the stem they may be fourteen or sixteen from the root, they will be found quite as much disposed to throw out strong breast-wood as the branches within two or three feet of the ground, the sap flowing stronger into every pair of branches as it approaches nearer to the top of the wall, the tree continually attempting to gain its natural position, which is nearly

erect. By this method, upon the first six or seven feet on each side of the stem full crops of the moderate-growing kinds may be produced, and from that distance to the extremity of each branch, good crops of the shy-bearing sorts may be obtained, thus causing the tree from one end to the other to be covered with fruit. (1)

Grantham, December 6. 1826.

ART. II. *On saving Garden Seeds by Gentlemen's Gardeners.*
By an OLD GARDENER.

Sir,

SOME gentlemen require their gardeners to save all their own seeds, and that from one garden, particularly if the garden is of considerable size; and in case of failure from wet or dry seasons, such as the last, the gardener, if unfortunately he cannot save enough of seeds for his use, incurs his master's displeasure, if not his discharge. My object is to show to those gentlemen that the thing cannot be done beyond the commonest sorts of peas, beans, potatoes, &c. Many gentlemen are not aware that the seeds of the whole tribe of Brassica plants, including all the varieties of cabbage, cauliflower, broccoli, Brussels sprouts, borecole, savoy, turnip, &c. &c. will become hybridised by the pollen of the flowers coming in contact promiscuously. As most of those plants flower at the same time, not only the wind, but the bees, butterflies, and other insects, are sufficient to effect an intermixture of the pollen. If the whole be in one garden, the saving the seeds of such a variety of sorts as are wanted by the gardener cannot possibly be accomplished; a disappointment not easily to be endured must take place. To have his cauliflowers genuine and early, his broccoli of sorts (six at least) true, his cabbage early and late, so as not to disappoint him at the time they are most wanted; his turnips of the different varieties, not to mention lettuce, radishes, onions, carrots, &c. — which, it is well known, are as easily hybridised by proximity as the Brassica tribe, — is not possible, unless the seeds are saved from plants growing at proper distances from each other; and I maintain that the limits of any garden, however large, do not admit of their being placed at this distance. Perhaps a garden of 10 acres, (and there are very few in the country which can boast of such an extent,) may be thought by many to answer all the purposes of seed saving; but it is a well known fact, that an intermixture of

the pollen has been effected at a much greater distance than such a garden will afford ; consequently, disappointments must ensue of a nature calculated to endanger the gardener in his situation. The established nursery and seedsmen of celebrity round the metropolis may always be depended upon for correctness in their different varieties of seeds, as their credit and success in trade depends on their particular attention to that department of their business. But how do they maintain this credit? It may not be known to many gentlemen, that the nurserymen do not save all their own seeds, for the very same reason that the gardener cannot ; namely, for the want of extent, and yet there are several nurseries above 60, and some above 100 acres.

Flower seeds may with greater facility be obtained, where there is a large flower-garden, and the season favourable for ripening ; but in many parts of the country tender annuals, when planted out into the flower-garden, will not in wet seasons ripen their seeds and seed-pods, and the withered flowers that necessarily accompany them are at all times unsightly in such a situation. But suppose beauty no object, still in a wet season, or when by any other cause a crop fails, the gardener can have no alternative but to apply to the nurseryman for a supply for the ensuing year ; and that gardener must be hardly dealt with, if, notwithstanding the reasons above stated, his employer insists upon him saving all his seeds.

To conclude, I maintain that the business of seed saving is quite a different branch of horticulture from that professed by gentlemen's gardeners, whose business it is to obtain and furnish for their master's tables every thing *in* as well as *out* of season, especially where forcing is carried on to any extent, and not to keep things back to mature their seeds for another season.

I am, Sir, &c.

AN OLD GARDENER.

It would be easy to point out the utter impossibility of any gardener saving the whole, or even any considerable part of his garden seeds, and at the same time having the sorts true to their characters. How very easily varieties of the Brassica family may be contaminated, and what important consequences result from their contamination, may be seen in a long account of a law-suit on the subject, in the *Farmer's Magazine*, vol. x. p. 2. A garden of 5000 acres would not be sufficient to admit of a gardener saving the requisite varieties of Broccoli with the certainty of having them true, since it is proved that bees will go two miles in quest of flowers. Hence the great care of

the London seedsmen in having their seeds grown in different parts of the country, distant from each other. We should, however, be glad first to hear what can be said on this subject by gardeners of more experience than ourselves. — *Cond.*

ART. III. *On the Treatment which Apprentices and Journeymen Gardeners receive from Master Gardeners.* By a NOBLEMAN'S GARDENER.

Sir,

As I consider the letter of G. R. G. (*Gard. Mag.* vol. i. p. 410.) would, if suffered to go unnoticed, be a severe reflection upon head-gardeners in general, I trouble you with a few observations as to the manner I treat the young men I employ.

When I first came to my present situation, which is a little more than three years ago, I got permission to have a room fitted up for two young men, who were to attend the fires, &c. to sleep in. In a short time, some changes took place among the men which I found here; and as the work of the place soon very much increased, particularly in the department of green-house plants and other plants in pots, I suggested to my employer the propriety of having young lads, who were light, and could do the work of watering as well or better than men. My suggestion was attended to, and I have now three of these at 8s. per week; I have two who have 12s.; and to the oldest hand, who I make my foreman, I give 13s., and this is the only difference I make with him from the rest. In the room I make them all stop till nine o'clock at night in studying their books, and I lend them one of your Encyclopædias, and any other books I have got; and when one of them is disposed to purchase a book, they consult me as to what one is best; they join together for candles, and, as I think it cheapest and best for them, they all board together. As I am anxious they should improve every minute of their own time, I allow an old woman to prepare their meals, &c. When they first come to me, I tell them that the more they learn, and the faster they improve themselves, the more I shall approve of them. As a sort of general rule, I desire them to keep a journal of the work, &c.; and seeing them almost every night, I now and then examine their journals, and put questions to them as to the *meaning* of botanical terms, or upon any subject they have been reading. I some-

times also hear them read aloud, and examine and instruct them in every thing I think useful. In particular, I impress upon their minds the propriety of their learning the common native plants : I am often sorry to see how much these are neglected, and treated, as it were, with contempt, even by those who have great pretensions to the knowledge of plants. I remember having met with a very striking instance of this sort. Between four and five years ago, I was on a visit to my friend Mr. Walsh, at Earl Plymouth's, when a nobleman's gardener, from a place noted for plants in a neighbouring county, called, and in walking about the grounds, in a piece of rock-work, a plant of *Prunella vulgaris* in full flower was discovered, and very much admired by the stranger, who wondered what it was ! thought it was quite new !! and that he had never seen it before !!! In my opinion an utter ignorance of native plants is inexcusable; for even where no collection is kept, a knowledge of natives may be acquired, and if it is, how greatly will it facilitate the learning of exotics whenever an opportunity offers. In speaking for myself, I know of no pleasure of this sort equal to it ; for with a slight knowledge, no road can appear dull, and one can no where travel and say that "all is barren ;" for at almost every step we must meet with an acquaintance, and sometimes with one we have not seen for many a day before. In the beginning of summer, I give my lads a bit of waste ground under a hedge for them to plant the plants as they find them, and every two or three days I name all I can for them ; and I assure you this has the very best effect, for their minds are now completely wrapt up in their business, and they do not appear to have a wish or a thought but in it, in some way or other. The plants gathered in the summer we plant in autumn according to their class and order for flowering next summer, which wonderfully assists them in that part of the science.

If there is so much cause of complaint against head-gardeners in general, as the letter of G. R. G. seems to imply, I am very sorry for it, as I am convinced that a little attention to the improvement of the minds of those employed under them would, in the end, be of infinite advantage to the masters themselves. This opinion of mine is not new : I have practised it, more or less, for ten years past. And as a proof that I have not done it from selfish motives, I have never received a penny from any one, or from the friends of any one I have ever had under me.

I intended to have communicated to you not only the manner in which I manage the lads now under me, but also

how I treated those I have had in other places, and then I should have dated this from the place I write from, and should have signed my name; but the letter of G. R. G. has drawn more of *self* from me than I then should have given, and more than I should think modest, except in such a case; and therefore I beg to subscribe myself,

Sir, &c.

A NOBLEMAN'S GARDENER.

The judicious and kind conduct of our correspondent has our warmest approbation: we recommend it for imitation, and especially where a garden-library is established. — *Cond.*

ART. IV. *On the Treatment of Gardeners out of Place by Nurserymen; in Reply to the Observations of Sensitivus.* By A NURSERYMAN.

As imaginary hardships destroy the happiness of mankind almost as much as real ones; and as persons often labour under difficulties which, in a great measure, they are themselves the occasion of, without discovering that to be the case; and therefore they are disposed to throw the blame upon some other person or circumstance: and such, in my apprehension, being the situation of a Yorkshire gardener, who, under the name of Sensitivus, has written an essay, in the *Gardener's Magazine*, (vol. i. p. 36.) upon the treatment which gardeners out of place receive from nurserymen; I am induced to submit a few remarks upon the same subject, in hope of correcting his sentiments a little, and of thereby rendering him, and others so circumstanced, who think in the same way he does, a little less uncomfortable.

When a gardener leaves his situation, Sensitivus admits it to be his best resource to apply to a nurseryman for work, till he can either obtain for himself, or the nurseryman for him, another regular gardener's place. This conviction is so strong upon the minds of gardeners, as to occasion so many applications to nurserymen for this description of temporary employment, that, notwithstanding the assertion of Sensitivus, "that most gardeners know that nurserymen have always more work than workmen," there are many, who, by painful experience, have proved how great this mistake is; and who, without first corresponding with the nurseryman they intended to apply to, have made long journies to his residence, and

have found him so fully stocked with hands, that they have had the disappointment of finding him unable to employ them. And any person of common sense may readily perceive that a given quantity of land will only require a certain number of hands to cultivate it, and that supernumerary hands would only add to the expense of the cultivator, without any adequate advantage. Sometimes, however, nurserymen will employ, for a short time, a small number of hands more than they actually stand in need of, rather than disappoint gardeners out of place, and in the expectation that some of them may soon get places; but this cannot be done to any great extent. This may explain the reluctance with which gardeners sometimes receive employment from nurserymen; but it is absurd to suppose that it has any thing to do with a cover for offering them low wages. The wages given in different nurseries are generally so well known by gardeners before they apply for work in them, that any attempt to reconcile them in this way would be ridiculous. When the smallness of the returns of a nurseryman are considered in comparison with his expenses in wages, interest on capital, rent, tithe, rates, taxes, &c. it will be seen that his profits are not often equal to the payment of great wages. And as gardeners coming into a nursery to wait a week, a month, or a year, just as it may happen, till they can meet with regular places again, are considered only as doing so for their own accommodation; and as, however busy the nurseryman may be at the time of a situation offering for them, his interest gives way to theirs; and, in addition to these circumstances, as the kind of work to which gardeners are accustomed, when in place, is of so different a character to that of a nursery, that, in a general way, they are some time before their labour is of equal worth to the nurseryman with that of a regular labourer, they receive during the time of their uncertain stay in the nursery only a small wage. And surely, under such circumstances, a gardener ought not to grudge a regular labourer his 2s. or 5s. per week more than himself receives. The labourer is in his settled allotment, and has neither intention nor expectation of leaving his employer for a better situation.

It appears to me highly probable, that what *Sensitivus* looks upon as disrespectful treatment, and imposition upon him, may have been, on the part of the nurseryman, real acts of kindness. And I would query of him, whether or not he can say, upon deliberate reflection, that he thinks he acted quite honestly in abridging his employer of a part of his labour, which he had agreed with him for by the day,

though he may think his bargain was a bad one? I confess I do not. And I think I can here discover how it happened that he so greatly excited the ill will of the foreman he complains of. It is the business of the foreman, he acknowledges, to see that the men do their work: but instead of finding him doing his work, we see, by his own confession, he would find him idling great part of a summer's afternoon; and, perchance, he might also overhear him encouraging his companions to follow his example. This might try the patience of a good-tempered man, and would be sure to ruffle that of a bad-tempered one. Some men, by being complaisant, and doing their duty, will live so comfortably with those who are bad-tempered as never to excite their tempers, whilst others, acting on opposite principles, will often get into broils with those whose tempers are by no means of the worst sort. However, I acknowledge myself no friend to such conduct in a foreman as *Sensitivus* describes. A foreman, in my judgment, ought, where he sees idleness or any other misconduct, to admonish the offender, without railing, or any kind of abusive language; and if, on doing this repeatedly, he cannot persuade him to do better, he ought to report him to his employer, in order that he might speak to him upon his improper behaviour, and, if he prove incorrigible, dismiss him. But to return to *Sensitivus*, who speaks of desponding on account of being so long in the nursery. Probably had he been more industrious, and given by that means proof of better principle and talents, he might have been recommended to a place sooner, and possibly to one of better wages. Is it to be expected, that when a nurseryman is applied to for an industrious, honest man, of an obliging disposition, he will be disposed to risk his own reputation by recommending one who, during the time he has had an opportunity of observing him, has exhibited none of these qualifications?

It is but seldom that gentlemen consult nurserymen as to the wages they shall give to their gardeners, as they mostly fix the wages of their servants themselves; therefore, I do not see how nurserymen should be to blame for the small wages gardeners often receive when in place.

I would recommend to gardeners to be diligent and attentive, and to keep a conscience void of offence toward God and man. Thus they would become truly valuable servants; and then I do not doubt but they would prove that merit often finds its own reward, and that honesty is always the best policy.

A NURSERYMAN.

A subsequent letter on this subject, by "A Lover of Facts," contrasts the case of a gardener out of a situation with a house-servant under the same circumstances. The former, he says, gets employment from the nurseryman, in general, as soon as he asks for it; the latter enters his name at an office for servants, and waits till he hears of another place, without being able to earn any thing in the mean time. Perhaps, in the course of a month or two, both he and the gardener have spent all they had saved when in place; but while the gardener can still exist in consequence of the employment which he receives from the nurseryman, the footman or butler is reduced to the greatest extremity. "A Lover of Facts," therefore, as well as "A Nurseryman," thinks gardeners are more indebted to nurserymen than nurserymen are to gardeners; and as far as respects the immediate benefits which the former derive from the latter, we are decidedly of his opinion, convinced that a nurseryman might get his work done much cheaper and better by labourers in his employ permanently, than by the employment of professed gardeners casually. As a proof of this, we may refer to the nursery of Mr. Donald of Woking, Surrey, where the operations are performed with a degree of accuracy and neatness *not always* to be met with in the London and Edinburgh nurseries, and in which the workmen are common country labourers. The single circumstance that makes it worth a nurseryman's while to employ, for short and indefinite periods, gardeners out of place, is the hope of getting their custom, when in the wheel of fortune, a place turns up. It is a satisfactory concurrence of circumstances that commercial and serving gardeners are thus mutually dependent.—*Cond.*

ART. V. *On improving the Gardens of Cottagers.* By Mr. WILLIAM WILSON, Gardener to W. J. Bethell, Esq. at Merley Gardens, Winborne, Dorsetshire.

Sir,

NOTHING can be more laudable than a wish to improve, as far as we possibly can, the condition of those individuals whom it has pleased a wise and just Providence to place in the more humble walks of life. You call, and with much propriety, upon the gardeners of the nobility and gentry to assist you in your disinterested endeavours to do good to this class; and as an individual belonging to that profession,

I, of course, feel myself included in the general appeal. I most sincerely lament, Sir, that I am at present placed in a situation where I can do but little, except by my advice; however, what little I can do I shall always, to the best of my judgment, feel pleasure in doing, whenever opportunity occurs. I am also well assured that a wish to assist in this matter is a prevailing one amongst gardeners of all descriptions; not only are they instigated to this by the gratifying employment of doing good, but also from the pleasure of seeing others devote their minds to a rational and useful occupation, from which they themselves have derived much gratification. At the same time, I am truly sorry to say, that so little encouragement is given to gardeners in general by their employers, that almost nothing can be expected while those who have the means and power not only appear indifferent themselves, but even place restrictions on those who would willingly lend their aid under their influence and patronage. I am aware, Sir, from actual observation, that there are gentlemen who would much rather see such things as a few cuttings of gooseberry or currant trees consumed by the fire, or a few spare roots or seeds of useful vegetables (not easily to be come at by labourers) given to their pigs, or even thrown to the dunghill; and I also know that there is a suspicious sort of blindness, and a littleness of mind which prevails amongst some of the higher orders, so that if their gardeners should by chance give away a cutting of a gooseberry or other article, he is supposed to be either directly or indirectly turning it to his own pecuniary advantage. Yes, Sir, even where a mutual exchange has only been made, (certainly more for their master's interest than their own convenience,) I have known it strictly forbidden, or if otherwise, obliged to be done as if it were by stealth. Others, who do not go quite so far as to give such a peremptory refusal, still view an exchange for mutual accommodation, or a spare cutting, plant, or paper of seeds given away, with a jealous and distrustful eye, perhaps more galling to an honest and upright character.

Now, Sir, while such erroneous and narrow-minded suspicions exist (and exist most assuredly they do), it must be a very material hinderance in the way of improvement; in fact, were it general, we might justly term it a complete barrier, almost impassable by human exertion. But let us hope for something better, and suppose that through your continued exertions an increasing spirit for this most important undertaking may be infused into the minds of the powerful and rich; and that they not only will encourage

those under them to pay particular attention to the subject, but take an active and decided interest themselves, and by their patronage and approbation stimulate all classes to use their utmost endeavours to promote so desirable and useful an improvement. Let them look to those noble-minded and philanthropic individuals mentioned in some of your preceding pages: such examples are worthy of imitation. Let such conduct as the late Lord Cawdor's, by the means of my much-esteemed friend Mr. Buchan, be imitated and established, and in a short time I have little doubt but the success will be equal, at least in nine cases out of ten. Let gardeners not only be authorised but encouraged to distribute cuttings of trees of good kinds, or roots and seeds that are useful and fitting for the consumption of those whom it is intended to benefit; I mean such things as can be spared from their employers' gardens without detriment to their interest, and would otherwise be wasted; for in every garden of any extent there are many superfluous productions which would be highly valuable to the poor cottager. I say let this be generally done, and the condition of the labourers on every gentleman's estate would be ameliorated, and their cottages and gardens rendered much more comfortable, clean, neat, and ornamental than they are at present. I have only to add, that if these remarks should have the effect of drawing to this subject the attention of any of your readers, better qualified to be useful, my greatest ambition will be gratified.

I am, most respectfully, Sir, &c.

WILLIAM WILSON.

Merley Gardens, Winborne, Dorsetshire,
Nov. 30. 1826.

ART. VI. *On Slate Tallies for naming Plants.*
By SUFFOLCIENSIS.

Sir,

A PLAN I have lately adopted for marking all descriptions of plants in my garden, appears to me so cheap and durable, that I am desirous, through the medium of your excellent Magazine, to make it generally known; conceiving, as I do not observe a similar method mentioned in your Encyclopædia of Gardening, it is not very frequently practised.

The material I use is slate, which I cut into tallies of various sizes, from one to two inches wide, and from three to six,

or even ~~ten~~ or twelve inches long: on these tallies I mark the name of a plant, or a number, with white lead. From the experience I have had, I am inclined to think these will come cheaper, and last much longer than any made of wood.

The slate I use is the broken waste, of which large quantities are thrown away by slaters. These are very readily cut to the dimensions required, by procuring an iron similar to that used by slaters, which can be made by any blacksmith, and an old bill-hook or meat cleaver may be made into a tool for making the edges straight. I mark them with a camel's hair pencil, similar to those used by painters in lettering; the paint I get mixed in small quantities as I want it at a painter's. A little practice will enable any person to cut the slate with sufficient accuracy, and very soon to mark upon it with neatness, ease, and expedition.

The permanent label described in your Encyclopædia of Gardening (§ 1386.) may be made of the same material, and a durable tie easily obtained, by using copper wire, which may be procured at any ironmonger's shop.

SUFFOLCIENSIS.

December 8. 1826.

ART. VII. *On the best Mode of growing such Culinary Vegetables as are raised annually from Seed.* By Mr. W. B. ROSE, Gardener to F. Canning, Esq. at Foxcote House.

Sir,

THE plan I adopt for growing all garden-crops usually raised from seeds, and not transplanted afterwards, such as turnips, carrots, onions, lettuce, radishes, &c. &c. is, to sow them in drills, of different degrees of width and depth, according to the size of the seeds and the plants produced. As soon as they rise through the ground, I commence thinning and hoeing, repeating the operation several times, especially the hoeing between the rows. The advantage of frequently stirring the ground about plants is known; but it may not be obvious to every one that the soil can be stirred much deeper, when the hoe works along a continued straight line, as it does between rows, than it can be when it works in curves or irregular roundish spaces of limited extent, as it does among crops sown broadcast. I sow my onions in rows six inches apart, and I can stir between them to the depth of nine inches or a foot if I choose; but if they were sown

broadcast, and every plant six inches from every other, I could not stir between them, with a common hoe, deeper than one or two inches.

Stirring deep and frequently renders watering unnecessary, because a porous surface is less impervious to the heat of the sun than a solid one, and therefore keeps the ground beneath both cooler and moister. Any gardener who doubts this being the case, may convince himself of the fact by covering part of a bed of onions with three inches of rotten tan, and comparing the soil beneath the tan with that left bare, as to heat and dryness. (See p. 76.)

Such a summer as the last proves the value of my plan; while the seedling crops of many of my neighbours were burnt up, mine were in luxuriance; my onions stood regularly at six inches apart, and were from eight inches to twelve inches in circumference; my carrots and parsnips stood at eight and ten inches, and measured from ten to fourteen inches in circumference, and all my other crops were in proportion. Some young trees, such as acacias (Cobbett's locusts), which I drilled in May last, and thinned out and stirred between the rows, are now three feet high. I have these and other articles ready to show in proof of what I assert.

My soil is a deep sour clay, which I dig and dung before winter; going as deep as the soil will admit, as I find it a great advantage to bring up fresh earth.

I am, Sir, &c.
W. B. ROSE.

*Foxcote, near Shipston-on-Stour, Worcestershire,
Nov. 2. 1826.*

The superiority of our correspondent's plan is unquestionable; we would recommend to him, and particularly to such as have the misfortune to prefer the broadcast mode, Mentor's Spanish hoe (p. 233.), which will go much deeper, either between rows, or in roundish spaces, than the common draw or thrust hoe. — *Cond.*

ART. VIII. *On the good Effects of protecting the Stems of Fruit Trees.* By WILLIAM STOWE, Esq. Surgeon, Buckingham.

Sir,

THE indefatigable and scientific president of the Horticultural Society, in the sixth volume of its Transactions, (*G. Mag*

vol. i. p. 424.) has stated, that many circumstances had come under his observation, which led him to believe, that when great part of the well organised blossoms of fruit trees became abortive, the failure might be attributed to some previous check which the motion and operation of the vital fluid of the tree had sustained, from the effects of frost in the early part of spring. Among many others he instances the *very* luxuriant growth of a common Chinese rose (*Rósa indica*) in his own garden, the *stem* of which had been protected by an entwinement of Irish ivy. Taking up this idea, I last April, just as the blossom was about to expand, had the trunk and larger branches of an apple tree in my garden (Wyker pippin) enveloped with hay bands, leaving two other trees of the pippin kind, within a few yards of the one on which the experiment was tried, to take their chance without protection. The nights of the latter part of April, and of the first ten days of May were remarkably cold; a self-registering thermometer of my own, and one on Six's principle under the observation of Mr. James Brown, gardener to the Duke of Buckingham at Stowe, indicating, on the night of April the 30th, a temperature 15° below freezing. This degree of cold proved fatal to the whole of the blossom of one of the unprotected trees, and nearly so to the other — about a dozen of apples being the total of its produce. But the protected tree seemed to be proof against the effect of the frost; and I do not exaggerate when I say that the crop was beyond all former precedent, and was the admiration of all who saw it, many of the branches being literally loaded like ropes of onions.

I am not such an advocate of the *post hoc propter hoc* maxim, as to think that there may be no fallacy in the conclusion, that the produce was the result of the protection, but I am so satisfied of the correctness of the principle, that I shall in the ensuing spring give the stems of my peach and nectarine trees the benefit of a similar clothing. I have merely related the experiment to induce others to repeat it; and as it can be done with very little trouble and no expence, I trust I shall be excused both by your readers and yourself for trespassing on your pages, even if, on repetition, it should be less successful than in the first instance. I am, Sir, yours, &c.

WM. STOWE.

Buckingham, Nov. 21. 1826.

The plan adopted by our correspondent may be generally applied with advantage. At Syon House, Mr. Forrest has protected the stems of some half hardy shrubs in this manner.

Mrs. Latour of Craven Hill has clothed the stems of some delicate sorts of standard roses of rare sorts; and magnolias, and other American trees, about Paris and Rouen, are frequently protected without any other covering than what is applied to their stems or trunks, taking especial care to cover well the collar at the surface of the ground, being that part which joins the trunk to the root, and in which, more than in any other, the principle of vegetable life seems to reside. —
Cond.

ART. IX. *On raising Plantations of Oak from the Acorn.*
Abridged from a Communication by Mr. THOMAS ALLEN.
F.H.S.

WHERE the oak is to be grown for timber, a deep soil, not gravelly, or abounding in springs, is essential to success; where it is to be grown as coppice, a deep soil is less necessary. Oak timber is much injured by being cut down in the spring for the sake of peeling the bark, while the sap is in motion. It is found better for the timber to peel the tree while it is yet standing, and not cut it down till the following winter. But as a colonial substitute for oak bark is found in the extract of *Mimósa* of New South Wales, it will probably supersede, in a great degree, the necessity of felling oak timber at an improper season.

The ground being chosen for an oak plantation, lay it out into rows five feet apart; and either straight or crooked, so as they may be in the direction of the slope of the ground. Dig the line of row one spit wide, and one spit deep; then dig a drain in the middle between the rows, and parallel with them two spits wide, and one spit deep, laying the earth so procured over that dug for the row; dividing each spit of earth vertically, that is with the spade turned edgeways, for when turves are divided horizontally, that is, with the spade held flatways, they soon re-unite. Round off the ridglet of good surface soil so formed, and cover it with the subsoil taken out of the bottom of the drain, which being free from the seeds and roots of weeds, will, if beaten smooth after the acorns are sown, produce few or no weeds for a year or two. A section of ground so prepared (*fig. 72.*) will show the surface soil under the intended row about

two and a half times the average depth, which will admit of the acorns sending down a powerful tap root, and insure



great vigour for the first two or three years, till the plants are beyond the reach of injury from weeds.

Acorns are very apt to be eaten by mice; immerse them in vegetable tar, and dry them with powdered lime, in the same way as wheat is pickled before sowing. Draw a drill along the centre of each ridge, and deposit them thinly, at say, of four good acorns. After the work is done, set traps for mice (the best is an empty flannel buried in the soil, with a tom on a level with the surface, *fig. 73. Cond.*), and Mr. Allen states, that after twenty-five years' experience and observation as a gardener, he considers the above plan as the best he knows for raising oak timber.

London, March, 1826.

ART. X. *On the Culture of Asparagus.* By J. O. S. P.

Sir,

THERE are few, if any, places in the United Kingdom where *asparagus* is grown equal to that in the neighbourhood of London; but if the method now to be described be strictly followed, I have no doubt the result will be as good *asparagus* as is or can be grown.

Make choice of a piece of ground which lies *dry* and *slopes*, so that the rain may run quickly off the paths; the lighter the soil is the better. Dig into the ground in the autumn a large quantity of good dung, and point it over in the following spring for the purpose of loosening the ground, and mixing the dung with it; then make holes with a *broad-pointed* dibble about an inch deep, at proper distances where plants ought to be put, in each hole drop three seeds, and cover the holes with light mould, such as that from old cucumber beds: the covering should be rather above the rest of the ground. The beds should be made four feet wide, and the paths two feet. Cover the beds with rotten dung, and let it remain on all the summer, which will keep the beds moist, and nourish the young plants. As soon as the stalks are decayed rake off the dung, and put on three or four inches of rotten leaves, such as have been used for forcing melons, pines, &c. The leaves will be much improved by having been exposed for some months, and turned over two

or three times before they are put on the beds. Put a light covering of mould over them to prevent their being blown away by the wind. Apply leaves in the same way every autumn, until the mould become as deep as it is wanted above the roots of the plants, increasing the quantity laid on at once according to the strength of your plants. It will be necessary to have the paths covered with long dung or litter, to prevent their being *trod too hard* for the roots to run in. The paths should never be dug, as is usually done, nor even the beds dug with a prong, which is often done, much to the injury of the crowns. The leaf mould when decayed will be found sufficiently light for the plants to rise through without digging. Any vegetable mould will be found to answer well, particularly the mould of *green vegetables*. Holes and ditches in and adjoining woods generally abound with decayed leaves, which, if mixed with leaves that may be collected, or any useless litter, will soon become a large quantity of mould.

The advantages which asparagus plants derive from this manner of cultivation, are these: The roots run in the paths undisturbed, and near to the surface; the roots in the beds find their way into the leaf mould, wherein they grow stronger than in the common way, where they are down from one foot to six inches in the natural soil.

Some may say, who is going to be at all this trouble about growing asparagus? Certainly there is no greater luxury produced for a grower than good asparagus and plenty of it, and I can state from experience, that by the above method of culture, the produce from one bed will be as much as from three or four, and of better quality. Beds made after this way will be as good at twenty years old as they were at six years.

I remain, Sir, &c.

December, 24. 1826.

J. O. S. P.

ART. XI. *Description of a Flued Pit for growing Cucumbers and Melons, or for other Purposes, and of a newly-invented Structure for growing Peaches and Grapes.* By Mr. JOHN HAYTHORN, C. M. H. S., Gardener to the Lord Middleton, at Wollaton Hall, near Nottingham.

Sir,

A GENTLEMAN in this neighbourhood having asked me if I could recommend him a plan of a pit for the growth of fruits

and vegetables, and also any plan by which he might grow a few peaches and grapes, I gave him those which I am now about to describe, and which I promised to send you some account of. I may premise, that the garden of this gentleman has very little walling, and no proper place for growing mushrooms; and therefore I included a pit for the latter, and a substitute for the former, and for a peach-house and vinery. Pits on a similar plan I have used with great success at Wollaton Hall, for growing cucumbers and melons. The cucumbers, and the smaller sorts of melons, I train under the glass, and the larger sorts of melons on the surface of the bed in the usual way.

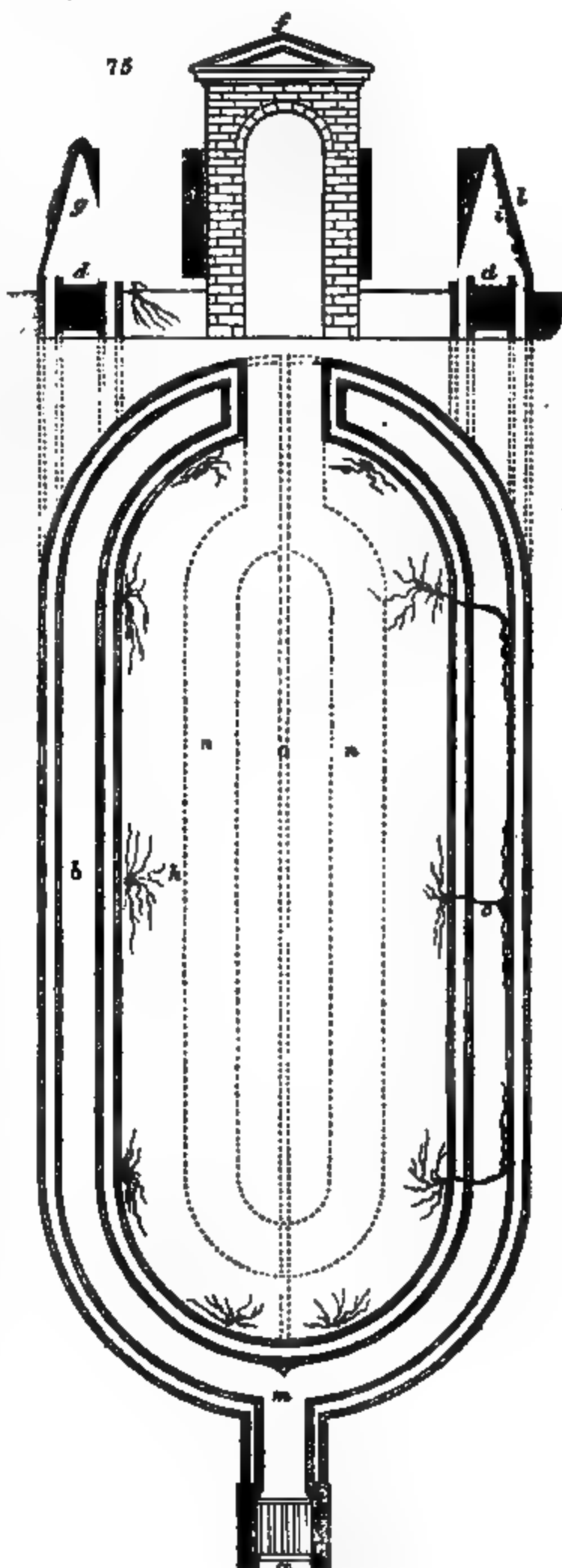
The pits (*fig. 74.*) stand east and west, and may either be used for cucumbers and melons, or for forcing vegetables or

flowers. They may be of the usual length and breadth, and sunk as deep into the earth as the dryness of the soil and drainage will admit of. Each pit has one fire and a flue, which makes three courses, two under the pit (*a, a*), and one along the pathway, to heat the air of the house (*b*). Over this last flue is a narrow pit, or box, in the way of border (*c*), for holding the earth for the cucumbers or small melons, which are trained to wires, suspended from the roof (*d*). The soil in this border may be increased by laying one or more courses of bricks along its outer kerb (*e*). Steam may be produced by pouring water over the cover of the flue (*b*); and also, if desirable, it might be produced under the bed of earth by introducing water through a pipe with a funnel (*k*); all the flues being furnished with a course of bricks along the outer edges of the cover, so as to form a trough between them.

The mushroom house (*g*) is a vault between the two pits, and which, by means of small openings (*i*), to be closed at pleasure by bricks, may receive heat from either or both of the pits; but, excepting in the most severe weather, the warmth incident to its situation will be sufficient for the growth of mushrooms. It may be fitted up with shelves (*h*) in the

usual way, and may also be used for forcing succory, rhubarb, seacale, winter potatoes, &c.

The peach and vine wall (fig. 75.) is proposed to inclose a plot of ground thirty or forty feet long, and of any convenient width. A fire-place (a) is sunk in the soil at one end, and two flues (b, c) proceed from it, the tops of which (d) are level with the ground's surface. These flues meet at the opposite end (e), and may be carried up either in brick-work or in earthen pipes, so as to meet in a chimney-top, concealed in the pediment (f), over the centre of the door-way to the inclosed space. If these flues run east and west, or south-west and north-east, then one of them may be covered with boards for growing peaches on both sides, planting the trees in the inside (h), and training them up one side and down the other; and the other flue may be



covered with boards, and a wire trellis on one side (*i*), for vines, and glass frames on the other side (*k*), to admit the light, and retain the heated air from the flue. The vines should be planted in the inclosed border, which should not be very deep, and might be paved at bottom and well drained, so as to limit the supply of nourishment, and check the overexuberance of growth in both peaches and vines. The roots of the vines may be kept apart from those of the peaches by an underground division of slates, or a brick-on-edge wall; indeed, it would be an advantage to limit the roots of each particular vine and tree in the same way. As there would be some difficulty in glazing the round ends, they may be boarded and covered with peaches, leaving only the straight part for vines.

When the peach-trees are in blossom, they may be protected by a moveable coping, and by a canvass or gauze covering. Standard peaches may be planted against the glass (*k*), with stems sufficiently long to reach the height of the structure, and their heads may be trained down the opposite side (*l*).

This structure should be rounded at the top, for the more easily training the trees over it; and it should be well painted or coated over with gas tar or pitch every two or three years, to insure durability, and destroy insects. If each side of the structure be six feet high, both sides will be equal to a wall of twelve feet; and I think the mode of heating will be found superior to that adopted in the common mode of constructing hot-walls. Pots of strawberries might be forced along with the vines, and steam might be produced by pouring water into the trough formed on the top of the flue (*d*). Dampers might be introduced at the place where the flues divide (*m*), so as to throw the heat wholly, or more or less, to one side, at pleasure. A walk (*n*) might go round the piece of ground inclosed; and this ground might be slightly cropped; but it will be better neither to stir it deep, nor to grow any thing on it, but merely to keep it clear of weeds. Care also must be taken not to disturb the partition between the roots (*o*); and if, as I would recommend, each separate tree be partitioned off, the ground should neither be dug nor cropped, but manured on the surface, and slightly pricked up with a fork two or three times a year.

I think a structure of this kind would have a good effect on each side of the main walk in a garden, as a substitute for an espalier rail. Both furnace and chimney-top might be connected with the outer wall of the garden, so as not to be

offensive, or to show that any flue or fire was connected with the structure.

I remain, Sir, &c.

JOHN HAYTHORN.

Wollaton Gardens, Dec. 1826.

ART. XII. *Experiments on the Growth of the Foliage of Bulbiferous Plants.* By ANTHONY TODD THOMSON, M.D. F.L.S. &c.

Dear Sir,

ONE advantage of the Gardener's Magazine, highly important to the labouring gardener, is the opportunity which it affords of communicating to him facts connected with vegetable physiology, which his time and his opportunities of obtaining information, prevent him from acquiring through books; but which, if they were known to him, he might prosecute with advantage, without any interruption to his ordinary occupations. The following observations upon the growth of the foliage of bulbiferous plants, I send to you, at this time, because this class of plants is, now, in such a state that any gardener may verify their accuracy.

In my published *Lectures on Botany*, I have pointed out the impropriety of regarding bulbs as roots; and have there stated, that they are merely appendages of roots, and sometimes of stems. From the manner in which a bulb vegetates, it may be correctly regarded, also, as the centre of the plant which is produced from it. The leaves rise, and are perfected at the apex, the increments of growth being added at the base, or next to the bulb; while, in the roots or radicles, the additions are made at the points, as in all other plants, a fact which was first noticed by Du Hamel. Thus, if a thread be passed through the radicle of a Narcissus, for example, it will remain at the same distance from the bottom of the bulb, although the radicle elongate to twenty times its original length: but, if a thread be passed, in the same manner, through the leaf of the plant, it is carried upwards as the leaf elongates. To determine the manner in which the increments of growth are deposited in the leaf, the following experiment was made upon a Narcissus growing in a water glass.

On the 14th of February, 1823, a silk thread was passed through one of the leaves of a Narcissus, one inch from its apex; another thread was also passed four inches below the

former. The portion of the leaf beneath the last thread and the bulb was two inches. The growth of the plant produced the following changes in the length of each of the above-mentioned divisions.

Dimensions of the entire leaf.	Dimensions between the Threads.		
	From the Apex to the First.	From the First to the Second.	From the Second to the Bulb.
Feb. 14. 7 inches.	One inch.	4 inches.	2 inches.
— 15. $7\frac{1}{2}$ inches.	No change.	No change.	$2\frac{1}{2}$ inches.
— 16. $8\frac{1}{10}$ inches.	No change.	$4\frac{1}{10}$ inches.	3 inches.
— 18. $8\frac{2}{10}$ inches.	No change.	$4\frac{1}{2}$ inches.	$3\frac{1}{2}$ inches.
— 20. $9\frac{1}{2}$ inches.	No change.	$4\frac{1}{2}$ inches.	$4\frac{1}{2}$ inches.
— 25. $10\frac{1}{2}$ inches.	No change.	$4\frac{1}{2}$ inches.	$5\frac{1}{2}$ inches.

From this experiment it appears that, in eight days, the leaf had increased nothing within an inch of the point; that it had increased one third of an inch only within six inches of the point; and that, between this point and the bulb, the increase was three inches and half an inch; demonstrating that the whole of the increments of growth had been deposited at the base of the leaf, whilst the apex remained unchanged and was carried upwards. It was still, however, necessary to ascertain, whether the apex of the leaf possessed any influence in affecting the growth of the base? and whether the sap, which produced the increase, was first raised to the point of the leaf? To answer these queries, I made the following experiment.

I took a Jonquil which, on the 20th of March, had four leaves, each eight inches long. I cut off one leaf, *a*, at the height of two inches from its base; another, *b*, at four inches from its base; a third, *c*, at six inches from its base; and left the fourth entire. Through the middle of the remaining portion of *b*, that is, two inches above its base, I passed a silk thread; through *c* I passed, also, two silk threads, one at two inches from its base, and the other two inches above the former, so as to divide the portion of the leaf into three equal divisions; and in the same manner divided *d*, the entire leaf, into four equal divisions, one of which necessarily constituted two inches of apex. The result of the growth of the leaves, at the end of three weeks, was the following:—

a had elongated half an inch only, and had become greener at the base.

b had elongated three-fourths of an inch, and was, also, greener at the base.

c had elongated two inches and a half, and was scarcely altered in colour at the base.

d had elongated three inches and three fourths of an inch, and remained natural, or unaltered in respect of colour at the base.

The inference which I draw from this experiment is, that the sap must be raised to the apex of the leaf, in order to undergo that change which is necessary to render it, on descending, fit to be assimilated into the substance of the bulb; and that it is from this altered sap, that the increase to the leaves is derived: or, in other words, that the *apex* of the leaf in bulbiferous plants performs the same function as the *entire* leaf in trees and shrubs.

I remain, Dear Sir, yours faithfully,

ANTHONY TODD THOMSON.

3. *Hinde Street, Manchester Square,*
March, 12. 1827.

ART. XIII. *On the Culture of Orchideous Plants.* By A. X.

Sir,

THE native orchideæ will thrive tolerably well under the following treatment: Choose a spot on a north border, or north side of a hedge, which is sheltered from the sun in the middle of the day, and as much protected from cutting frost winds in spring as possible. Take out the soil to the depth of twelve inches; lay three inches of brick-bats at the bottom of the excavation; cover them with thin turf, and fill up the remaining space with a compost of one half melon loam, one fourth of peat, and one fourth of sand. Plant the roots about three inches deep, surrounding the bulb with an inch of sand, which will prevent them from perishing in wet weather, by absorbing the moisture during the time they are in a dormant state. Put a light covering of furze or fern over the bed in March and April to shelter them from cutting frost winds. At this season they frequently get cut off even in their native places of growth by the severity of the weather. The species that will succeed treated in this way are, *Habenária bifolia*; *Orchis Mório, máscula, latifolia, maculata*; *Gymnadénia conópsea*; *Hermínium Monórchis*; *Listéra ovata*; *Epipáctis latifolia*, and *palústris*.

The following species are more tender, and, to ensure their preservation for years, they ought to be potted in the same compost as directed for the bed above described, with plenty

of drainage at the bottom of the pots, and also sand around their bulbs. When their flower-stalks decay place the pots close under a south wall or hedge where little rain can get to them, or lay the pots on their sides to prevent their getting over wet. In autumn they ought to be placed in a cold frame facing the east or west, but not the south, where they may remain till April. Shift them every spring, clearing away all or nearly all the mould and sand from their roots. Those that require this treatment are, *Orchis pyramidalis*, *ustulata*, *militaris*, *fusca*, *hircina*; *Habenaria viridis*; *Aceras anthropophora*; *Ophrys muscifera*, *apifera*, *aranifera*; and *Spiranthes spiralis*.

The *Epipactis pallens*, *ensifolia*; and *Neottia*, *Nidus avis*, will seldom be preserved above one season under any treatment that I am acquainted with. *Spiranthes spiralis*, although supposed by some persons not to flower in the same spot again for years, will be found, when treated as above, to flower regularly every year, and to increase faster than most of the other species. If you think the above worthy of your notice, I will, perhaps, at some future period, give you more minute details of each species as to treatment.

Your obedient servant,

October 23. 1826.

A. X.

ART. XIV. *Observations on Water as regards Ornamental Scenery.* By RICHARD MORRIS, Esq. F. L. S. Surveyor and Landscape Gardener.

OF the many ornaments employed to embellish landscape scenery, and of those which relate more especially to landscape gardening, water contributes in an eminent degree to add the beautiful, the picturesque, or the grand. It is on the due appropriation of the forms of water, that a very important branch of the duties of the landscape gardener depend. The neglect which this branch of the art has suffered is attributable as much to the incompetency of the designer and executer of improvements, as to the difficulty of obtaining the required element, and the many specimens of bad taste in the disposal and arrangement of water has contributed materially to that neglect; for it is a well-judged and correct decision, that where ability in this branch of the art is wanted, it is better to submit to the privation, than to be continually disgusted by viewing a misapplication of that which, had it been judiciously disposed, would have formed one of the most essential ornaments

of the landscape. If proofs were required of the value of water in landscape scenery, it would be necessary only to refer to those lovely scenes of nature, where the smooth unrippled lake, reflecting all the harmonious tints surrounding it, adds beauty to the scenery; where the winding river, with its variously formed banks, enlivens the meadow and the valley—where the purling stream or rivulet trickling down its pebbly bed, and breaking the silence, adds solemnity to the wood,—or where the bold impetuous cataract, dashing its waters over huge masses of rock, enriches so much the grandeur of the scene, already stupendous, that it becomes almost terrific. Such scenes as these must be viewed with admiration by all possessed of taste, and must be desirable on the domain of every lover of the beautiful and the picturesque.

A lake (*fig. 76.*) is very appropriate and ornamental in some situations, but as it requires extent in width and length,

a unity of character is necessary in the surrounding scenery, that it may not appear to occupy too much space, nor be unappropriated; its boundaries should be much diversified in form, no distinguishable character of outline should be observable; the little intricacies occasioned by outlets and projections will be interesting, and productive of a pleasing effect, which in some places would wear the appearance of continuing where perhaps no water existed, thus producing a justifiable deception.

A river winding through a valley (*fig. 77.*), or on an extended plain, gives a lively interest to the scenery. Where a supply of water affords the opportunity for producing an artificial river, great care is requisite while directing its course,

to avoid those formal and regular curves which so frequently mark works of art with a decision ever offensive to the ad-

miration of nature. The regularly formed canal, with its equal breadth and sloping banks, betrays the work of art in a very slight degree more than the regularly formed winding stream, with its sweeps in geometrical exactitude, its banks in uniform declivity, and its width corresponding throughout; these formalities can never be admired by the painter. Where "picturesqueness" is required, these monotonous forms must be avoided.

A rivulet winding through the wood is as well calculated to charm the ear as the eye. The modest and musical notes of the purling stream, enlivened by the gentle flickering of the almost noiseless trees, among whose stems and half-exposed roots the lucid element is occasionally viewed trickling its serpentine course, is a scene better conceived than described. It is in such sequestered spots, that the mind feels delighted in being alone; removed from the noise and bustle of the world, it is enabled uninterruptedly to enjoy and contemplate Nature's works, and to give scope to those reflections which such a spot is calculated to produce. To such retreats man is instinctively led; he returns again and again to the delightful situation, still finding some new object, some fresh beauty to admire, till the enjoyment he expresses while witnessing such scenes would appear to the casual observer to border on enthusiasm.

Water presented to the eye in the form of a cataract (*fig. 78.*) impresses the mind with an idea of grandeur; in no form in which water is viewed, either in nature or in art, does it so truly present the picturesque as in a cataract, where it is made to dash with bold irregularity over the rugged precipice,

and where the adjacent ground-work supports a character in unison : —

“ While from aloft the bursting torrents flow,
As deep recoiling surges foam below ;
Prone o’er the rocks the whitening sheet descends,
And viewless Echo’s ear astonish’d rends.”

In the disposal or formation of ornamental water, the banks must be a particular feature in producing the character required ; on these much depend as to the general effect of the

subject ; and much judgment is essential to their well and appropriate disposal. To some situations the gentle curved line would be best adapted ; to others a partial flat on one side, with perhaps a decided irregularity on the other ; and sometimes the precipitous and towering bank, in parts overhanging, would give contrast and effect. The undulating curved line may be introduced, where a continuity of a flat piece of water is visible, or where an irregularity of outline in the distant scenery is manifest, and where any high and much projecting forms in the foreground cut the irregularity of the distance, then the opposition of the curved line will be more particularly requisite and truly in harmony. A partial flat in parts is frequently desirable, to give a view to the more interesting portions of a piece of water, to be seen from the residence, or any other conspicuous point of view, as well as sometimes being in contrast to the precipices of another portion of the bank ; and sometimes, where a river is much covered, a flat surface might in parts afford a view of some distant

curve. A portion of the river thus re-appearing at a distance would be truly interesting; and this effect might even be produced under some circumstances with a lake as well as a river. The perpendicular and towering bank contributes much to vary the character and forms of the sides of lakes or rivers, opposing the regular sloping bank, or the dead level: these oppositions, so evident in nature, should be studiously observed in artificial scenery, where there is a desire of producing the picturesque. In productions of this kind, taking nature for a model, the object to be gained is not merely to bring into an assemblage the variety of forms which nature displays, but so to dispose them that they shall not appear to be the studied production of art. Here may well be taken into consideration the component parts of banks, as well as forms considered as a whole, for on these parts depend much the character and effect produced. No better guide can be offered than the compositions of natural banks: there will be observed the most pleasing harmony and contrast of colours in the various-tinted strata, occasioned by the white chalks, the brown earths, the red gravels, combined with the greensward and variously-tinted foliage; these blended and appropriately disposed, combine to form not only harmony and beauty, but contribute also towards the picturesque. In the formation of banks to artificial water, added to the variety of colours in the materials employed, we must also observe their forms; these are frequently marked in a most interesting manner in the banks of natural rivers: there portions of the softer stratas are washed away by the stream, leaving projections of stronger substances of rocks or huge stones. Parts being undermined, portions of green turf are thrown down, perhaps resting midway, from which sometimes are observable brambles or other bushes, just able to obtain support, and throwing their branches towards the stream below; all these combine to produce the most lively interest, and in works of art, where picturesque beauty is an object, by observing and imitating these striking features, as well as other pleasing intricacies with which nature abounds, the work may be made to assume a character of natural irregularity, which is rarely viewed in artificial productions.

(To be continued.)

ART. XV. *On the Merits and Demerits of Iron Hot-houses for the Culture of the Pine Apple.* By Mr. ALEXANDER GORDON, Gardener to Sir William Wake, Bart. Courteen Hall, near Northampton.

Dear Sir,

EXCEPTING a communication from the President of the Horticultural Society, which was published in their Transactions some time since, I am not aware of any opinion having as yet been given on the merits or demerits of curvilinear hot-houses, constructed of iron sash bar, for the cultivation of the pine apple. In consequence of this deficiency on that point, I make bold to offer a few observations on the subject, which, if you think worthy of a place in the Gardener's Magazine, they are freely offered.

In the first place it is absolutely necessary, for bringing pine apples to perfection, (under whatever structure or building they may be grown), to have a sufficient ventilation, that the heated or confined air may be allowed to escape, and a free admission of fresh air permitted to enter; but this is more particularly requisite under the curvilinear iron bar, as a much larger portion of the sun's rays are obviously transmitted by the additional surface of glass which it contains, than would be the case in a house constructed of the common sash and rafter. Particular attention to the *regulation* of the ventilators is also a very requisite point in the management of a curvilinear house, much more so than in a common pit or stove.

One apparent bad effect, I am well aware, will result from the adoption of the iron bar, viz. the plants soon assume a rusty tinge and unhealthy appearance during the summer months; but in the autumn they regain that green hue which is so sure an emblem of health in the pine. These transitions I at first considered to be of a decidedly injurious nature, but experience proved that in the swelling off and flavour of fruit, it did not materially injure them; however, I certainly would prefer retaining the green hue. In the summers of 1825-6, I succeeded far beyond my most sanguine expectations in accomplishing this desired object; namely, by shading with sheets of canvass, from the hours of nine, ten, and eleven in the morning, until three, four, and five in the afternoon, according to the influence of the sun. In addition to the shading, I kept a constant saturated atmosphere in the interior of the house, from which the greatest benefits were derived in the swelling of the fruit, and also in destroying the red spider. Every practical gardener is aware how difficult it is to subdue

this insect in a hot-house where French beans and other culinary vegetables are necessarily grown.

I endeavoured to pursue a regular system in the application of the moisture, and the point of condensation was regulated by the hygrometer invented by Mr. Daniel, taking as a guide the degree of atmospheric vapour that generally prevails in tropical climates, and which (as I understand) seldom varies more than five or ten degrees from the temperature of the air. At the time I commenced this mode of treatment the pine plants were in a very unhealthy and stunted state, and some vines in the house were absolutely covered with red spider; in a very short time the spider was entirely eradicated, and the pines wonderfully improved.

I consider so minute a regulation of the quantity of water applied for saturating the house to be by no means requisite; the same practical effects may be produced in regulating the quantity of moisture, by the indications of the thermometer, which certainly every one who superintends the management of a hot-house must necessarily consult. The hygrometer is, in the first instance, very expensive, which expense is increased by the consumption of ether on every observation being made.

I have now stated what I regard as the principal objections to a hot-house for the cultivation of the pine apple constructed of the curvilinear iron bar, and have also pointed out by what means I effectually obviated those objections. I will now endeavour to enumerate the various benefits that attend it, which, under a proper management, will, I think, be found to preponderate in its favour.

What can be more desirable for a gentleman to exhibit as a prominent feature in his dessert, than a handsome grown, large-sized, and delicious-flavoured pine apple? Yet how much more must its value be enhanced in his estimation, if he can produce this at a season of the year when no such thing can be had in the country! I have no hesitation in saying, that by cultivating pines under a curvilinear bar, the season will be accelerated at least two months in the size and flavour of the fruit, if a proper system of management is in other respects pursued.

In confirmation of this assertion, I will mention an instance which came under my own immediate observation. In November, 1825, some New Providence and Enville plants showed fruit, which swelled extremely well; the Providence from small plants, weighed about 5½lbs., they ripened early in the spring, and were pronounced by an eminent fruiterer in London as the handsomest grown he had ever seen, and my

employer bore testimony to the superiority of their flavour. In the summer months (the general season when good-flavoured pines are obtained from a wooden house), those cultivated in the former will surpass them in handsomeness of growth, size, and flavour.

It is with the utmost satisfaction that, from a long-continued regular course of observation, I am able candidly to acknowledge, that my previous objections to iron houses are entirely surmounted, (*experientia docet*), and I willingly avail myself of this opportunity to state that practical gardeners, of all others, ought to prove before they condemn.

Dear Sir, I am, &c.

ALEXANDER GORDON.

Courteen Hall, Jan. 23. 1827.

ART. XVI. *On the relative Duties of Gardeners and their Employers.* By G. P. R.

Sir,

As the professed object of your Magazine is to encourage and promote horticulture, permit me to direct your attention to a subject which is frequently the cause of much vexation and inconvenience to both gentlemen and their gardeners, and renders abortive many designs for improvement in the art.

A gardener of industrious habits and good dispositions engages himself to a gentleman at a rate of wages which he feels to be low, but believes that, as his abilities are developed, his master (as an act of ordinary justice) will certainly raise them.

Settled in his situation, he is all assiduity in inventing and acquiring every improvement in his power, and which he devotes to his master's advantage. The master is well pleased with the attention of his servant, and enjoys with satisfaction the fruits of his skill, which are exhibited in the improved appearance of his premises, and in the increasing products of his culinary and flower gardens.

But year after year passes on, and no *substantial* token of the master's approbation is realised by the gardener; although it is probable, zeal in the service has induced him to take many journeys to obtain information on improvements, and to procure new plants and cuttings from his friends; and for which, not even his coach-hire has been refunded, to say nothing of

other expenses connected with such visits. However contented a man may appear under such circumstances, and, from a sense of duty, continue to persevere in promoting the rural pleasures of his master, he cannot feel unconscious that he is unjustly treated. Thus affairs go on: the one never represents his feelings, and the other, from the apparent content of his servant, never extends his liberality. Eventually, he mentions the case to his patron nurserymen (who, by the bye, are always glad to provide this caste of gardeners for their most liberal customers), and a more advantageous situation is obtained. But when the circumstance of his leaving is mentioned to his master, he can *then* raise his wages; and does not forget to declare, that his gardener is destitute of every feeling of honour and gratitude if his offers are refused. But will a man of *even ordinary* mind feel happy in accepting these *forced* advantages? Surely not. Experience and observation prove, that where the man retains his situation after such an occurrence, the bond of attachment and confidence is materially injured.

Thus a narrow-minded policy on the part of the master is evidently a great drawback to horticulture, and is a source of much vexation and inconvenience. The master loses a good servant, and the gardener is prevented from completing many experiments he had commenced.

The preventive to this evil is easy. Let not the master wait till such an event as I have described transpires, to put his liberality to the test; but, of his own free will, adopt those measures which will secure his gardener's attachment and energies to his person and services.

The case, Sir, I have described is by no means uncommon, and I really think that if *you* were to produce an article on the subject, it could not fail of arousing the consideration of gentlemen, and induce them to adopt measures to prevent an inconvenience which many of them have experienced.

I need not attempt to prove to *you*, Sir, that an industrious and intelligent gardener annually increases his employer's profits and pleasures, and, therefore, in common justice, deserves adequate remuneration.

I am, Sir, &c.

January 10. 1827.

G. P. R.

ART. XVII. *Explanatory Remarks on Mr. Seymour's Mode of training Peach Trees.* By Mr. JOHN SEYMOUR, Gardener to Miles Stapylton, Esq., Carleton Hall, Yorkshire.

Sir,

IN your description of my mode of training peach trees (*Gard. Mag.* vol. i. p. 130.) you have given a correct idea of the first and second year's management; and, at your request, I shall now relate my practice from the third year till the wall is filled.

I may premise that, whatever be the merits or demerits of my system, it is entirely my own. I have been engaged in bringing it to perfection for upwards of thirty years, twenty of which I have spent here, and it is very little more than a year since I have got it to my mind.

My method is truly systematical, as all the principal leading shoots are trained by a line stretched from the setting on, or origin, of the shoot, to beyond its extreme length; and the distance of the leading shoots from one another, is regulated by a semicircular line, at about ten feet from the stem (*fig. 79.*); the distances between the shoots of ten inches each,

19

are measured on this line in the same manner as if I were going to draw a polygon.

The shoots produced the first year after planting are, one upright shoot and two side shoots. In the second spring the

upright shoot is cut to three buds, and the side shoots are shortened to produce lateral shoots for future bearing; these lateral shoots are laid in about a foot asunder (*a*).

✕ In the course of the winter or spring of the third year shorten the side shoots to about ten or twelve inches, as may be most convenient for wood buds (*bb*), to get two principal leading shoots from each side shoot; the first about three inches from the stem, as the bud may suit, and the other at

80

the end of the shortened shoots, so as to double the leading shoots. The upright shoot is always cut at three of the lowest and most suitable buds, so as the stem may be kept as short as possible; for, unless the side shoots are multiplied the stem gets too high. If the side shoots are strong the year after cutting down, they may be laid in their whole length; but if weak, they must be cut short to give them strength. Continue in this way to double the side shoots for two or three years, by which the tree will get strength, and then it will admit of the side shoots being shortened to about fourteen inches (*c*). Cut for two or three years, so as to produce three shoots upon each side shoot, and so continue until there is a sufficient number of leading shoots to furnish the wall.

After the tree has got into a bearing state, cut the lateral shoots to about eight or nine inches, taking care to cut at a wood bud, and at the time of disbudding leave the best situated buds, and those nearest the base, for the future year's bearing.

I send you a portrait of a vanguard peach tree of six years' growth (*fig. 80.*), exactly as it stands against the wall in this garden, and taken by my son this 11th of March, 1826.

I am, Sir, &c.

JOHN SEYMOUR.

Carleton Hall Gardens, March, 1826.

ART. XVIII. *Catalogue of Plants introduced into this Country by Robert Barclay, Esq. F.L.S. H.S. &c., and now growing in his Garden at Bury Hill, Surrey.* Communicated by Mr. CAMERON, Gardener there.

Sir,

THE following is a list of part of the plants which have been introduced within the last few years by Robert Barclay, Esq. into his garden at Bury Hill, which you may perhaps think worthy of being recorded in your useful and interesting Gardener's Magazine, to show the zeal with which my worthy and respected master is forwarding the science of botany, and adding to the ornaments of the gardens of the country. Some of these plants have been also raised in other gardens about the same time, but none are inserted which were not raised full as early here as at any other place, as far as I have been able to learn.

Amongst the plants contained in this list the *Combrétum purpureum* (*fig. 81. a*), and *Thunbergia alata* (*b*) planted out as

climbers, are as showy as any yet introduced into the stove; a plant of the former, after flowering freely during the summer, is now again (November 11.) coming into full bloom, having

at this time thirty spikes of flowers open and in bud. An original plant of the latter has been in flower, without the intermission of a single day, from June, 1825, up to this time; it has at present between two and three hundred flowers open, and there has been sometimes upwards of a thousand blossoms open at one time; it has also succeeded well during the summer months planted out in the open border, having flowered freely, and was only cut off with the *Dáhlías*, &c. by the frost of last month.

In the green-house the *Lechenáultia formósa* (c), of which there is a dark-flowered variety here, is in flower the greater part of the year out of doors; the *Lupinus mutábilis* (e) is most conspicuous, being still in full bloom in the open border, and against a south wall; the *Nuttállia digitáta* (d), *Pentstémon digitális* (fig. 82. f), and *Cenóthera speciósa* (fig. 54. p. 189.), are very showy, and remain a long time in bloom.

There are many other new plants in this garden from different countries, particularly Madagascar, and the east coast of Africa, the names of which are not yet ascertained. A plant of *Erythroháena conspícua*, or scarlet Mexican thistle (g), introduced by Mr. Tate of Sloane Street, is just going out of flower against a south wall, and two are coming into flower in the open border, without having yet suffered from the lateness of the season or severity of the weather.

I am, Sir, your obedient servant,

DAVID CAMERON.

DICOTYLEDÓNEÆ.

Subclássis I. — *Thalamiflóreæ*.

NAT. ORD.

Anonáceæ.

Pittospóreæ.

Malváceæ.

Buttneriáceæ, Dombeyáceæ.

Tiliáceæ.

Hypericínæ.

Uvária lúcida. Bojer.

Pittospórum mauritiánum.

Hibíscus oxalidiflórus. *Sida macrophýlla*.

Bojer. *Nuttállia digitáta*. Swt. Br. Fl.

G. 129. (fig. 81. d.)

Dombéya ferrugínea. *Pterospermum lancefólium*.

Entélea arboréscens.

Harónga madagascariénsis.

Subclássis II. — *Calycifloræ.*

NAT. ORD.

- Malpighiáceæ, Banistérieæ. *Banistéria zanzibárica.* Bojer.
 Celastríneæ, Euonyméæ. *Plectrónia ventósa.* *Rubéntia angustifólia.*
 Leguminóseæ, Papilionáceæ. *Cýtissus glomerátus.* Bojer. *Onónis emar-*
ginátus. Bojer. *Clitória lascívia.* Bojer.
 Tr. Hedysáreæ. *Æschynómene péndula.* *Desmódium lácteam.* Bojer.
Desmódium spectábile. Bojer.
 Tr. Phaseóleæ. *Kennédia coccínea.* Bot. Mag. 2664. *Rynchósis*
móllis. Hook ex Fl. 201. *Dólichos hætifólius.*
 Bojer. *Lupínus mutábilis.* Swt. Br. Fl. Gard. 130.
 (Fig. 81 e.)
 Tr. Dalbérgieæ. *Dalbérkia Síssoo,* Barcláyi, Hook ex Fl. and Tel-
 fáiri.
 Tr. Mimóseæ. *Mimósa latispinósa,* *Mimósa Barclayána.* *Acácia*
chrysostáchys.
 Tr. Cássieæ. *Cássia pulchélla.* Bojer. *Cássia austrális.* Bot. Mag.
 2676. *Bauhínia speciósá.*
 L. non satis notæ. *Phyllolóbium zanzibarénse.* Bojer.
 Chrysobaláneæ. *Grangéria borbónica.*
 Onagráriæ. *Jussiaea ovalifólia.* *Cenóthera cruciáta.* *Cenóthera ser-*
ruláta. Swt. Br. Fl. G. 133. *Cenóthera speciósá.* *Cenó-*
thera trilóba. Bot. Mag. 2566.
 Combretáceæ. *Combrétum purpúreum.* (Fig. 81. a.) *Quisquális indica.*
Terminália fatræ'a.
 Myrtáceæ. *Fœtídia mauritiána.*
 Cucurbitáceæ. *Feuillæ'a pedáta.*
 Caprifoliáceæ. *Lonicéra pubéscens.*
 Rubiáceæ. *Fernélia buxifólia.* *Pædéria lingún.* Bojer.
 Compósitæ,
 Subord. Cardúaceæ, Trib. Card. véræ. *Centáurea Americána.*
 Subord. Inúleæ. *Ammóbium alátum.*
 Subord. Astéreæ. *A'ster graveólens,* Nuttal. and Arkánsa. *Soli-*
dágo angustifólia. *Dorónicum Mexicánus.*
 Subord. Eupatóreæ. *Eupatórium parviflórum.* *Stévia callósa.*
 Subord. Jacobéæ. *Cinerária discolor.* Bot. Mag. 2647.
 Subord. Heliántheæ. *Spilánthes scándens.* *Encélia canéscens.* *He-*
liánthus tomentósus. Nuttall. *Coreópsis*
grandiflóra. Swt. Br. Fl. G. 175. *Montanóa*
tomentósa. *Montanóa grandiflóra.*
 Subord. Anthemídeæ. *Artemisia parviflóra.*
 Subord. Ambrosiáceæ. *Ambrósia cumanénsis.*
 Stylídeæ. *Stylídium adnátum.*
 Goodenóviæ. *Eutháles trinérvis.* Lodd. Bot. Cab. *Lechenáultia*
formósa. Bot. Mag. 2600. (Fig. 81. c.) *Scæ-*
vóla taccáda.
 Ericææ, Er. véræ. *Andrómeda buxifólia.* Bot. Mag. 2660.
 Epacrídeæ, Epac. véræ. *Dracophýllum grácile.* Bot. Mag. 2678.

Subclássis III. — *Corollifloræ.*

- Apocíneæ. *Cérbera Tánguin.* Bojer.
 Convolvuláceæ. *Ipomæ'a atrosanguínea.* Bot. Mag. 2170. *Argyréia cune-*
áta. *Argyréia ornáta.* *Morenóa pátula.* *Morenóa*
grandiflóra.
 Boragíneæ. *Tournesórtia argétea.*
 Hydrophýlleæ. *Nemóphila phacelióides.* Bot. Reg. 740.

NAT. ORD.

Solanæ, Pericarpium baccatum. Nolana fruticosa. Solanum angulatum. Solanum angulvi.

Scrophulariæ, Stamina (4) Antherifera. Buddlea Americana. Pentstemon digitalis. Bot. Mag. 2587. (Fig. 82. f.)

Labiata. Monarda Russeliæna. Bot. Mag. 2513. Ocimum cordifolium. Plectranthus ternatus. Bot. Mag. 2460. Pycnostachys cærulea. Hook ex Fl. 202.

Verbenacæ. Clerodendrum macrophyllum. Bot. Mag. 2536.

Acanthacæ. Thunbergia alata. Bot. Mag. 2591. (Fig. 81. b.) Thunbergia angulata. Hook. ex Fl. 166.

Subclâssis IV. — *Monochlamydeæ*.

Amaranthacæ. Oplotheca floridana. Bot. Mag. 2603.

Laurinæ. Tetránthera laurifolia. Hernandia guianensis. Hernandia ovigera.

Proteacæ. Grevillea concinna.

Euphorbiacæ. Acalypha integrifolia. Phyllanthus turbinatus. Bot. Mag. 1862.

Urticæ. Maclura aurantiaca.

MONOCOTYLEDONÆ.

Subclâssis I. — *Phanerogacæ*.

Pandânæ. Pandanus pedunculatus. Pandanus sessilis. Bojer.

Aróideæ, Taccacæ. Tacca phalifera.

Orchidéæ. Goodyera tessellata. Goodyera pubescens β minor. Bot. Mag. 2540. Liparis foliosa. Bot. Reg. 882. Aeránthes grandiflora.

Iridæ. Paterónia glauca. Bot. Mag. 2677.

Hemerocallidæ. Sanseviéra fulvo-cincta.

Bromeliacæ. Pitcairnia staminea.

Commelinæ. Tradescantia virginica δ nivea. Aneiléma longifolia. Hook. ex Fl. 204.

Palmæ. Latania borbónica. Sâgus Râffia. Eutérpe globosa.

Subclâssis II. — *Cryptogacæ*.

Filices, Polypodiacæ. Cyathea excelsa.

We have arranged the names in Mr. Cameron's list according to the natural system, as well to show the extensive range taken by these plants, when distributed in their proper places, as to give to botanists some idea what sort of plants they are. A tolerable botanist, though he has not seen one of the above 119 plants, on seeing the names of the natural groups to which they belong, will be able to form a more just notion of their appearance, habits, properties, and even culture, than he could by any other arrangement, or by any other contrivance short of figures or dried specimens. If the mode of studying plants in groups, and distributing collections in gardens according to the natural system, were generally adopted, botany would become an easier, more agreeable, and more satisfactory science than it is at present: because innumerable ideas

and names, hitherto with difficulty impressed on and retained in the memory, from their want of connection or absolute discordance, would by the views of relationship brought to light by the natural system, be referred to groups of ideas already established in the mind. Some idea being formed of each and all the leading groups which compose the vegetable kingdom, it would only be necessary, on meeting with a new plant, to refer it to one of these groups; or, on the other hand, on being told to what group any new plant belonged, we have only to recall to mind the type-plant of that group, in order to figure to ourselves the new individual and its properties and relationships. The mind must always remain in the dark respecting any subject which it cannot comprehend as a whole, and be in a state of distraction respecting any science, the facts of which it cannot associate according to some leading or connecting principle. The study of plants, according to the Linnean or artificial system, is good to begin with, and to follow to a certain extent; its defect as a whole is, that it presents a crowd of unconnected images and facts. According to the natural system, the vegetable kingdom is presented as a whole, every part of which, though different from every other, is yet related to the parts with which it comes in contact. The Linnean system presents a heap of broken links,—of bricks in a kiln,—or words in a dictionary; the natural system presents a chain, a house, or a discourse. To survey the vegetable kingdom by the artificial system, is to walk through a country intersected everywhere by fields and hedges, which may be very convenient and useful for culture, but are proportionally injurious to the natural features: to survey a country by the natural system, is to be carried from the summit of one hill to another, and look down on the general masses of woods, waters, and plains.

Whoever, therefore, wishes to study plants so as to derive the greatest possible quantity of knowledge and enjoyment, from the least possible quantity of exertion, in study and expense of books, figures, or living plants, ought to direct his views towards the natural system. We do not mean that he ought to leave off the artificial system of Linneus, which cannot yet, and probably never may be dispensed with, but he ought to consider it merely as a step to the other. Every plant that a learner gets the name of, either by the Linnean system, or empirically, he ought to refer to its group in the natural system, and as soon as possible, and by every means in his power acquire a knowledge of one or more plants of each of the principal groups of that system. There are three

ways in which this may be done: 1. Those who live among plants, such as gardeners, may direct their attention in the first instance to one or two plants in each group, instead of learning the names of plants indiscriminately: 2. Those who can afford to purchase specimens, figures, or to order sketches of plants to be made for them, may make a similar discrimination, (see p. 221.): 3. Those who have a garden, however small, may exemplify all the orders, suborders, and tribes of the natural system, as far as it has hitherto been subdivided, by 330 plants. Of these plants, 236 are hardy, 50 require the protection of the hot-house, and 44 of the green-house. These 94 exotics might be kept in a pit sunk in the ground with hollow walls, and a hollow bottom; the pots might be plunged in tan or ashes, and the frost kept out by a lining of dung next the end containing the hot-house plants, and by ample nightly coverings in severe weather. In the summer months they might be taken out and plunged in the open air in their proper places in the natural system, as in the Jardin des Plantes, and the pits employed in growing cucumbers or melons. We repeat, that the smallest garden might maintain a collection of this sort at a very trifling expense; and we add, that no other collection that could be introduced into a small garden would be in so high a degree instructive, interesting, and philosophical. Where there is room to admit of several plants, instead of one of each group, especially of the hardy kinds, the knowledge of each group will be increased, and the interest created by the general effect considerably greater.

When the importance of studying plants, with reference to their natural groups, comes to be better understood, every garden containing a collection will exhibit them so arranged; and parents who wish their children to acquire, at an easy rate, a general knowledge of botany, will plant in their gardens an index to the natural system, on the same principle that they place an orrery in their school-room, or an encyclopædia in their library.

If it is found worth while to have a few plants, it will be found worth while to have those few the most important in point of scientific interest that can be selected from the whole vegetable kingdom, viz. the types or representations of the different orders and tribes which compose that kingdom. This is to prefer a superior principle of selection to an ordinary principle, to exhibit a taste of the highest and most intellectual kind, instead of the inferior motives of show, extent, or even rarity and high price. Not that these motives are to be despised, because they are valuable to begin with, and may

lead progressively to that higher degree of excellence, which we are desirous of pointing out as the ultimatum.

It is less the business of science or philosophy to call things good or bad, than to call them by their proper names, to describe the phenomena that attend them, and the state of civilisation, culture, and refinement which they indicate. There is no taste which may not have been good under certain circumstances of time, place, age, and country, for almost all truths but those of mathematics are relative. The love of tulips and roses is one stage in the progress of botanical taste; a second is the love of showy herbaceous plants and shrubs in general; a third stage is the love of the curious or fantastic, succulents, monsters, &c.; another stage is the love of the minute, mosses and ferns; then comes partial love, such as of one tribe or kind, as grasses, bulbs, — now begins the dawning of the love of system; — after a great many steps the Linnean manner is arrived at, — and, beyond that, as the ultimatum, the natural system. The difference in kind between a taste for plants as ornamental or curious, and a taste for them as parts of a grand whole, is no doubt very great; but a judicious botanist will not limit his views, or the plants in his garden, either to the one extreme or the other, nor because he has arrived at the discovery of beauty in mosses and ferns, or resolved on planting a *systema naturæ*, will he forget the tulips and chrysanthemums, which perhaps first caught his attention to the subject. — *Cond.*

ART. XIX. *Remarks on the Sloping Hollow Wall proposed to be erected by J. A. B., Esq. By H. G.; and farther Remarks on the same Subject. By W. H.*

Dear Sir,

YOUR correspondent, J. A. B., Esq. (*Gard. Mag.* vol. ii. p. 7.) proposes to erect two walls of twelve feet high, five feet apart at the base, and gradually approaching to the top, thereby having a sloped surface on either side. He calculates he will by that means have an advantage by additional exposure to the sun, and that in part may be very true; but the great object of a wall for trees is to retain during the night the heat gained in the day. Now I fear he will find, in the first place, that the heat obtained in the day will pass off much quicker from his wall than from a common one; and as heat has a tendency to rise perpendicularly, it will pass off without benefiting the upper shoots, whereas in a common wall it of course must pass all the shoots in its passage up-

wards, and thereby keep them warm during the greater part of the night. In the second place, there is no mention made of the frosts and cold damps of spring and autumn, which must of necessity fall more on a wall that is sloped than on one which is perpendicular; and I think he will find that in the spring he will have the shoots and blossom forced by day, and destroyed by night; and in the autumn the first frost that comes will fall so sharp on the leaves and fruit, as to destroy the former, and, consequently, render the other useless. Independent of all this, the rain, as it falls, will be collected in the same way as on the roof of a house, which will both have a tendency to destroy the wall and injure the roots of the trees.

I am, dear Sir, &c.

Walsworth, February 1. 1827.

H. G.

J. A. B. Esq.'s first advantage, he says, is the exposure to the sun. Perhaps he does not consider the exposure of the blossoms of his trees to frosts, hail-storms, &c. more than if the trees were on a perpendicular wall. Next, he says, his hollow wall will be drier! How? By being more exposed to falling rains, &c.? But the effect of these he proposes to dry by fires, which, if made strong enough for that purpose, would be strong enough to damage the trees planted within. He says dung may be fermented there also: I think not to advantage. What man could use a fork in that space? Besides, the dung would be better worked in the open air. If there be any walls in his neighbourhood with buttresses to them, let him examine the face of those buttresses, and see if they be drier than the walls they are built to support. I have seen walls but a few inches out of the perpendicular, which I could not keep clean from moss. Fruit would be liable to rot by being in contact with a wall so constructed.

I am, Sir, &c.

Hitcham, Herts, February 5. 1827.

W. H.

ART. XX. *On the Use and Abuse of Salt in Gardens.* By
AGRONOME.

Dear Sir,

FULL of the resolution which I had formed last week, of becoming an author, I have bought a quire of paper, a bottle of Japan ink, and a quarter of a hundred of quills, as extra stock for that purpose, and I intend dedicating the whole to you in the course of this winter. I felt greatly encouraged by

perceiving that I had nearly filled my first sheet, before I had well entered into my subject, and was convinced that I could write a large volume on that very insignificant article, *salt*. But I now feel rather daunted, to think I cannot put more matter into fewer words, and shall endeavour to finish on that article as soon as possible; for as I intend giving you a treat of twenty-four dishes, I think two of them filled with salt will be quite sufficient. In order then to proceed methodically, I will, as Lord Byron says, "begin at the beginning." First, then, none of the ancients ever made use of salt as a manure. Among the Egyptians, Chaldeans, and Greeks, according to their mythology, salt was the very emblem of sterility. The first time that salt is mentioned (as far as I remember), is an account of an honest man's wife being turned into a pillar of salt, which in allegory means barrenness. The Dead Sea (which all the waters of Jordan cannot make sweeter than the strongest brine), being nearly surrounded with rock-salt, has, on its shores, the most barren spots on the globe. One huge mass of rock protruding a little above the others has some faint resemblance of a wrinkled old woman, and is shown to travellers as the identical salt-lady alluded to. I have seen several pieces of the said rock in England; they are kept in the museums of the vulgar curious, and serve the double purpose of a very ancient relic, and an excellent hygrometer: the Cheshire rock answers the latter purpose just as well. Again; when the ancients had any particular spite against a city, or the land where the city had stood, their custom was to curse it in the most solemn manner, and to *sow it with salt*; not for the purpose of manuring it, but that it might never afterwards be any thing but a barren wilderness, and this shows that they had not tried so many experiments with salt as I have done. But that the ancients used salt as a stimulant, or seasoning, is equally clear and certain. In the Greek sacrifices salt was always one of the ingredients; the very gods, it seems, had a relish for salt the same as we have. And in Leviticus, ii. 13. there is an order by Moses to the following effect:—"Every oblation of thy meat-offering shalt thou season with salt; neither shalt thou suffer the salt of the covenant of thy God to be lacking from thy meat-offering." And again, "With all thine offerings thou shalt offer salt." Now, what epicure could give his cook more particular directions? The explanation given to this text, Mark, ix. 49., does not appear half so intelligible, viz. "Every one must be salted with fire." I have read several pamphlets on salt as a manure, &c., most of them take their text from Luke, xiv. 34, &c. Mr. G. W. Johnson

nails his arguments with the same passage. It is a pity that people, who are so ready to quote Scripture, should not, at the same time, season their arguments with a little of the salt of common sense, and show that they understood a little of what they read. Sentences which have been translated from various languages in different ages require a good deal of the above salt; for instance, how should I reconcile the paradox of salt losing its saltiness, without admitting of some small typographical error? We have heard of flowers losing their perfume, fruits losing their flavour, &c., but whoever saw or tasted salt which had lost its saltiness? and yet the saying must have been perfectly intelligible when first spoken, and meant, without the least doubt, the refuse salt, which nobody would buy for culinary purposes, and which the salt-makers got quit of the best way they could. This is the kind of salt, Sir, which was thought by the ancients to be good for nothing; to be neither fit for the land nor for the dunghill, and I may add, not very good for making footpaths with. This is the kind of salt which is as good for agricultural purposes as the best in England, and which I can buy in these enlightened times at 10s. per ton, and have 30 cwt. to the ton. So now I will tell you what I have found this said salt to be good for, and the whole may be comprehended under the two general heads, viz. for *destroying weeds and worms*. I find I can keep a large coachyard perfectly free from moss and weeds for less than a shilling a-year; this to gardeners must be very acceptable; when families go from home, the weeding of pavements is often a tedious job; I also can keep my gravel-walks clear of moss and weeds at a tenth of the expense of breaking up, raking, rolling, &c., besides avoiding the plague of getting some sorts of gravel to bind properly, and I have always found hand-weeding of walks, &c. to be not only expensive but a great plague, as the work is too insignificant to set a man to; mischievous boys, or decrepit old persons, are alike nuisances in a gentleman's pleasure-ground. Care should be taken in salting the walks not to let any drop on the box-edges, as it kills it also, and makes it very unsightly; it has also been found to discolour some of the skirts of the ladies' dresses. I found it very effectual in destroying the worms, &c. in the tan-pits, but the cure proved a deal worse than the disease, as it chilled the whole surface of the tan for a good way down. Nothing checks fermentation so much as salt; it is the chief antidote to putrefaction, and yet it acts on certain bodies in a wonderful manner. It commenced operations against the curb stones of the tan-pit at this place, and would soon have reduced

them to a heap of sand, if I had not scraped them well, and painted them also. And here, I believe, I have let out the secret, why salt has been supposed to be a sort of manure, as it not only kills worms and weeds, but even acts upon certain earths and stones in a similar manner that severe frosts do; for, as I said before, it is an excellent hygrometer, liquefying and crystallising with the atmosphere; and in a hot-house, where changes are so sudden, any porous body, having imbibed a quantity of salt in a liquid state, the heat again crystallising it, not only stone but bricks and flower-pots crumble down from its effects. But I see I have filled my sheet before saying half what I intended, or a fiftieth part of what I would say on the subject, so remain yours, &c.

AGRONOME.

ART. XXI. *Description of a Tulip Case, and its Uses.* By
Mr. H. GROOM, F.H.S. Florist, Walworth.

Dear Sir,

It having been frequently remarked to me by gentlemen purchasing tulips, and indeed all named flowers, that they had great difficulty in keeping them in order under their different names, I shall feel obliged by your inserting the annexed plan of my tulip-case in your valuable Magazine, as I think it may be of service to persons commencing the growth of named flowers by the facility which it affords in arranging and keeping them distinct. This case (*fig. 83.*) is 3 feet 11 inches

high, 2 feet 8 inches wide, and 1 foot 9½ inches from front to back, with slides for 10 drawers. The doors are 3 feet 2 inches high, with wire-work for the panels, and also for the back, which, by thus admitting a free circulation of air, assists

84

7	Byb	Bizd	Rose	Byb						
6	Rose	Byb	Bizd	Rose						
5	Bizd	Rose	Byb	Bizd						
4	Byb	Bizd	Rose	Byb						
3	Rose	Byb	Bizd	Rose						
2	Bizd	Rose	Byb	Bizd						
1	Byb	Bizd	Rose	Byb						
	1 Row.	2	3	4	5	6	7	8	9	10

materially in drying the roots. Each of the ten drawers (*fig. 84.*) is 2 feet 7 inches long, 1 foot 8 inches wide, and 2½ inches deep; the length is divided into 10 cells, the width into 7; each cell being 2½ inches by 2½ and 2 deep. Now as there are 10 rows in each drawer, and 10 drawers, the case will of course contain 100 rows, each row having 7 roots, and as my tulip bed always contains 7 roots across, the drawers will correspond with the bed. The reason of having 7 rows is, that the centre root may be the tallest, and the bed sloped off to each side. In arranging a tulip bed I begin with a bybloemen, then a bizard, and next a rose (marked in *fig. 84.*), beginning with the first row of the top drawer; thus.

Drawer the first.

- Row 1. — No. 1. in the first row is a Bybloemen, viz. Patriot.
 2. Bizard Holmes's Wm. Pitt
 3. Rose Claudiana.
 4. Bybloemen Violet Alexander.
 5. Bizard Charbonnier Noir.
 6. Rose Catalani.
 7. Bybloemen Gloria Alborum.
- Row 2. — No. 1. in the second row is Bizard Vulcan.
 2. Rose Camuze de Craiz.
 3. Bybloemen Imperatrix florum.
 4. Bizard Catafalque.
 5. Rose Bacchus.
 6. Bybloemen Grand Monarque.
 7. Bizard Emperor of Russia.

Row 3. — No. 1. in the third row is

Rose.....	Cerise Blanche.
2.	Bybloemen Reine de Sheba.
3.	Bizard Polyphemus.
4.	Rose..... ComtedeVergennes.
5.	Bybloemen Louis Seize.
6.	Bizard Emperor of Austria.
7.	Rose..... Julia.

And so on till the bed is complete, by which means I have the greatest possible mixture of the three classes of colours.

The same or a similar case will answer for named ranunculuses and anemones ; but if one is made on purpose for the two latter flowers I would recommend the bottom of the drawers to be of coarse canvass, strained tight, instead of wood.

I have made the case (*fig. 83.*) to contain only 100 rows, although mine has 230 rows; but that of course would be much too large for a private collection.

I am, dear Sir, yours truly,

H. GROOM.

Walworth, February 1. 1827.

Much as we are an advocate for a systéma natúræ in every garden, we are not the less so for a department devoted to florists' flowers; and we know, from experience and observation, that a principal reason why these are not more cultivated is the difficulty of keeping the numerous varieties distinct. By Mr. Groom's plan this difficulty is overcome. The drawers may be taken to the beds at planting, and one root after another taken out of its cell and put in the ground, without the trouble of making and using number sticks, or having any other marks than one for the beginning, and another for the ending, of the collection. The drawers may be again taken out at the taking-up season, and each root, with its off-sets, replaced in its appropriate cell. Thus far we entirely agree with Mr. Groom, and we have little doubt his communication will be of real use to many, and diffuse more widely a taste for that department of gardening to which he has devoted himself. But his principle of arrangement, "the greatest possible mixture," we cannot let pass without stating our opinion on the subject. We know that "mixture" is the practice of all florists, and with most other people, when their object is to produce what they call variety. Variety, however, is not produced by mixture, but by a succession of different things. Every part of a mass, formed on the principle of mixture, is the same in appearance, and the general effect monotonous; but every part of a varied whole differs from every other part,

and the general effect is harmonious. In a mixture the most opposite things may adjoin each other; but in a variety things only adjoin which have a particular relation to one another, and to the effect to be produced. But a mixture is so universally desired by florists and gardeners, (see the Horticultural Society's practice, pp. 105. 128.) that there must be something attractive in it; and we shall, therefore, shortly investigate the causes of its influence on the mind.

The natural and constant effort of man is to acquire, and, having acquired, to make known his acquisitions to others to the greatest advantage. This is a first principle in our natures, which will be taken for granted. The object of all art is to call attention to the artist; and hence, in a low state of any art, attention will be called to low qualities of the artist's mind — to the mere power of doing something — to the extent, or quantity, or number of things in our possession. These qualities will command praise and admiration in a state of society where the mind is too gross to derive enjoyment from more refined expression, because it is always much easier to surprise than delight. The mind requires long and continued culture before it can appreciate the higher beauties of nature and art; but the most uncultivated individuals may be startled and astonished by number and extent suddenly brought before them. Now, the chief effect of mixing flowers in beds, borders, or shrubberies, or exotics on shelves or stages, is to surprise and confound by the apparent number of sorts, — to impede the constant tendency of the mind to comprehend what is before it, — and, in short, to puzzle the spectator. Such is the result of mixture; and we do not mean to say that it is not a result worth something, but merely that it is low in the scale of taste. It may be very suitable to minds in a particular state of cultivation; and there can be no question of its convenience to a dealer either in plants or books, who has not a very numerous assortment. But if there is any thing better than mixture — any thing higher in the scale of taste — that result must surely be worth attempting in the present times and in this country, where society is both cultivated and refined, and where the objects to be arranged are not merely abundant, but so numerous, as to render arrangement, on the principle of variety, necessary to their comprehension and enjoyment. Many gardeners and others assent to this proposition, but are merely mistaken as to what constitutes variety, thinking to produce that result by mixture. We shall next, therefore, shortly investigate the principles of variety.

The ultimate object of the art of producing variety is the same as that of the art of producing mixture — applause to the artist: but in this case the means are addressed to a higher class of minds. The object of variety is not, like mixture, to puzzle and confound the spectator, but to charm and delight him, by leading the eye a sort of “wanton chase,” as Uvedale Price has elegantly expressed it, from one beauty to another, — alike, but yet different, — presenting in the detail novelty at every movement, and all its parts conspiring to form a beautiful and harmonious whole. The extent to which variety may be carried is determinable arithmetically, by the multiplication of the properties which are to enter into the composition of the scene, in the same way as are calculated the number of changes which may be rung on a peal of bells.

In gardening there are three leading kinds of variety, which it may be useful to notice; the first is, where variety is to be produced from one kind of object, by changes in its disposition on the ground, *e. g.* planting a shrubbery with one kind of tree, where the variety would be produced by grouping and massing the trees in all manner of ways; the second is, where variety is to be produced from many kinds; taking as kinds, magnitude, figure, colour, &c., as well as species and varieties, but where the disposition is fixed; *e. g.* a tulip-bed where all the plants are in the angles of squares of the same size. The third kind of variety is, where the first and second data are united, *e. g.* a shrubbery or a flower-border.

The second kind of variety, or that to be aimed at in disposing a great number of kinds, is alone applicable to tulip-beds, or other flowers placed at regular distances on beds or stages, and nothing can be more easy than to produce it in the greatest perfection which it admits of; viz. by placing masses of one kind after another, taking care to place those kinds which most resemble each other close adjoining. For example, in tulips, to place all the Bybloemens in a bed by themselves, and all the bulbs of each variety of Bybloemen together, and again those varieties adjoining each other which are most alike. The only farther requisite in arranging a bed of Tulips or Crysanthemums, is the choice of a succession of leading colours; that is, supposing all the shades of any one colour disposed of, what colour should be taken next? A practical answer to this question is, recollect the order of colours in the rainbow, and if at any time you are at a loss, ask an artist of any kind, from a milliner-girl upwards.

The gardener who understands a little of the natural system of botany, will observe, that the result to be produced by this arrangement of Tulips and Chrysánthemums, bears a great affinity to that which is effected by applying the natural system to the whole vegetable kingdom. The result may be called, with reference to the great number of genera of plants, and varieties of Tulips, a simplification of multiplicity — the placing many things in an order by which they may be easily comprehended — by arranging them in relationship, or in what may be called in Tulips or Chrysánthemums, a natural system of colours. The difference between such a system and that of mixture is great; great in the ultimate effect, and equally so in the means by which that effect is produced.

We do not suppose that those who possess only a few things of whatsoever kind, will think it fitting to show the nakedness of their collections, by adopting variety instead of mixture; but those who have such an assortment of Tulips as Mr. Groom, or of Chrysánthemums as the Horticultural Society, might afford to raise their aims a few degrees higher in the scale of taste.

The first step towards a knowledge and taste for variety, is to be able to distinguish variety from mixture. Had we room, it would be easy to show that the knowledge of what variety is, would lead to an effectual desire to possess it; that this desire, applied to gardening, would produce a prodigious increase in the botanical riches of country seats; — that applied to the planting of shrubberies, for instance, it would lead to the employment of twenty times the number of species of trees and shrubs that are at present employed: — the present meagre monotonous mixtures that gentlemen are content with in most parts of the country would take their due place at the bottom of the scale; and every country-seat worth visiting would be enriched with all the species and varieties of hardy trees and shrubs which bear the open air in our climate. What an interest would such places then excite, compared to what they do at present! And all that is wanting to produce this interest, and enjoyment, and commerce, is a little more knowledge of plants among gardeners, and a little more taste and ambition among their employers. But the great drawback to improvement is, that the majority of mankind are content with things as they are: the germs of new sources of art, industry, and happiness, are in abundance around us, but remain dormant till they are excited by genius and knowledge, and appreciated by wealth and taste. — *Cond.*

ART. XXII. *Remarks on the Policy pursued in the Management of the King's Botanic Garden at Kew.* By J. P. BURNARD, Esq.

Dear Sir,

I OBSERVE by your "calls" that you go frequently to Kew Gardens, with your remarks on which I perfectly agree; but I wonder it has never occurred to you to notice the policy of Mr. Aiton, the director of these gardens, with respect to the distribution of plants. Collectors of plants in general take a pleasure, and feel it to be their interest, when they have procured a rare plant, and propagated it, to distribute specimens among such friends as are likely to take care of it, and promote its increase in the country. I hardly know a single exception to this among private individuals, and is it not discreditable to the country that the only exception to this liberality should be found in the garden of the King? There the system followed is that of a Dutch tulip fancier, who would rather destroy than give away. How different this practice from that of the directors of public gardens in general in this country, and that of the national gardens of France and Germany. I refer you to the preface of Dr. Hooker's Glasgow Catalogue, and request you to call in mind the late Mr. Donn of Cambridge, and the practice of Messrs. Loddiges. Even the *royal* garden at Madrid, according to the interesting account of your learned correspondent, Professor Lagasca, not only gives away seeds to all the provincial gardens of Spain, but to the principal gardens of Europe and America. Surely such illiberal conduct on the part of Mr. Aiton cannot be approved of by the King, distinguished as he is by good taste and liberality. I feel persuaded that if this matter were only properly represented to His Majesty, a very different practice would be pursued; and I hope some competent person, who understands the gratification that would accrue to botanists, and the advantages that would result to the country, from an early distribution of new and rare plants, will undertake to do so. I need not state to you, or to the readers of the *Gardener's Magazine*, what the advantages of distribution are. It is well known among botanists and gardeners that a considerable number of rare plants introduced at Kew many years ago, and published in the *Hortus Kewensis*, are now lost there, and known only by their names in that learned work. Had they been distributed among private collectors and the nurserymen, there can be little doubt some of them would

have been alive some where, and the most elegant of them, such as many *Próteas*, *Bánskias*, *Dryándras*, *Erícas*, &c. would have been in the common trade of the nurseries.

The most effectual way to attain any object is to enlist men's interest in its favour ; for which reason I entirely approve of your postscript to the valuable paper on the Horticultural Society in a former number. (Vol. I. p. 149.) The garden at Kew, and the Horticultural Garden, ought not only to give away all new things to the nurserymen, but to the different public botanic gardens. By these means all handsome things would be immediately brought into trade by the nurserymen for the sake of their own interest, and all things whatever of the plant kind preserved in the botanic gardens, from the ambition of each particular curator to increase and maintain his collection.

What aggravates the illiberality complained of is, that it is not practised towards foreigners. A gardener from any of the German courts may, as I am informed, get any plant he asks for ; but an Englishman, unless he is a courtier, or has some very especial recommendation, has no other means of procuring a plant or a cutting from Kew than such as are disgraceful to the profession. It is painful to reflect on the moral evils which have been produced through this illiberality, and for which I certainly think the guardians of Kew are to a certain extent chargeable :—at any rate, in estimating the merits or demerits of the Kew system, its moral effects ought to be taken into consideration, as well as those upon the botanical commerce, riches, and enjoyments of lovers of plants and gardening.

I have not been able to ascertain whether the gardens at Kew are the private property of George IV., or his property as King. If the former is the case, then it may be said the public have no right to complain ; all that they are entitled to say is, that George IV.'s gardener is not so liberal as gardeners generally are ; but if the Kew Garden is royal property, I should think the botanical world have as good a right to expect liberal treatment from its director (by which I mean cuttings, seeds, or plants of such new things as can be spared, instead of destroying the things, as is now done,) as the inhabitants of the metropolis have a right to walk in Kensington Gardens. But whether Kew Gardens are public or private property, it is certain the King must have sufficient influence with the director to induce him to act like other directors of botanic gardens ; and I repeat, that if the propriety of

this mode of acting were pointed out to His Majesty, there can be no doubt of its being immediately attended to. Hoping that some competent person will undertake this, or that your Magazine will find its way to some favourite summer-house or covered seat in the garden of royalty,

I remain, dear Sir, yours very truly,

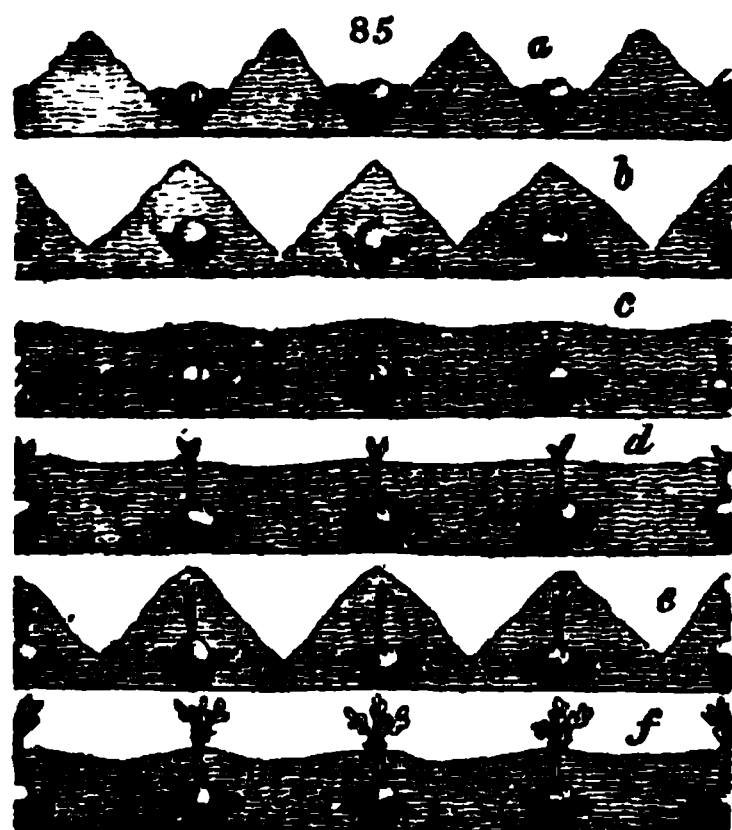
J. P. BURNARD.

Eden Grove, Holloway.

The difficulty of getting any new plant, cutting, or seed from Kew, and the number of plants that have been introduced there and lost, or introduced there and not given out to the country, has long been, and still is, a subject of general complaint among gardeners and botanists. We have received various letters and hints on the subject besides the communication of Mr. Burnard; and we should have taken public notice of them sooner, had we not been in expectation of seeing a pamphlet (*A*****ia*) published on the subject, a part of which we have seen, and which was written upwards of a year ago. To us it has always appeared, that in no private gardens was reform so much wanting as in the royal gardens. With scarcely any exception, they bear on their general appearance marks of want of funds to keep them in proper repair and order. How the masters and principal workmen are paid we know not, but the journeymen at Kew get only 12s. per week, as in the public nurseries. The King is said to drive frequently round these gardens in his pony-chaise. — We are certain his enjoyments in this way would be diminished if he knew the rate at which they were purchased. We are certain, also, that if, by any possible chance, the royal eye should meet this page, the wages of the journeymen at Kew will be increased. It is hard that these poor fellows should not even have a lodging in addition to their 12s. We hope some person of influence will procure for them a suitable rise of wages, or, at least, a lodging-house in the village, which might be put under the care of some old pensioner; and as there are, we understand, nearly forty persons in all employed about the gardens, the greater part young men ardent in the pursuit of their profession, there could not be a better situation for a Garden Library. The entire system of royal parks and gardens is rotten, and requires renewal, or radical reformation. (See p. 371.) Something should be done, and we trust will be done. — *Cond.*

ART. XXIII. *On the Field Culture of the Potato in Argyleshire.* By W. M.

THE potato husbandry of this district has been very successful for a long time; and as there is something in our practice not usually followed in other districts, I send you a short notice of it. The manure is sometimes applied to the field during winter and ploughed in, or it is by the better economists reserved till the field is drilled for planting. When the first plan is adopted it gets another ploughing across the field, and is then planted, the plough going one bout along the furrow of which the set is placed, and then covered by the return of the plough.



The mode I prefer is preparing the field in the same way as for turnips, and placing the dung in the drill, and the set on it (*fig. 85. a.*) and then covering them up by cleaving down the ridgelet, and forming others (*b*): a fortnight or so afterwards, the whole field is harrowed across (*c*). As soon as the plants have so far sprouted as that the drill can safely be traced

from end to end (*d*), then the whole field is drilled again as at first with a very strong furrow (*e*), and then the harrows are set immediately to work after the plough has finished drilling, and the field is levelled again (*f*). Any one that is unacquainted with the system would suppose the crop ruined, but it is far otherwise. The after-culture is no way different from the common practice of paring away the earth, drill harrowing, and earthing up, as in other countries. I can, from practice, advise only paring or earthing, as the case may be, one side of the drill at each turn, as you get your operations more quickly done at the time, and are more frequently stirring the earth, and at the same expense. The charm, if I may use the term, of the system is, the additional drilling up and harrowing down; by this harrowing all the larger clods are thrown to the furrow, where they are fully pulverised by the drill harrow and after-culture, and all the weeds are so effectually drawn from between the plants that there is no use of hand-hoeing. The expense may be calculated at less than a third of hand-

hoeing, from the effect and expedition; of course dry weather is the time for the second drilling and cross-harrowing to be performed.

I have followed the same plan in drilled beans with advantage: it is only my own short and confined experience yet with beans; but the testimony of the whole district will recommend the potato husbandry. W. M.

Argyleshire, January 28. 1827.

ART. XXIV. *Remarks on the Choice of Seed Potatoes, and on the general Principles of choosing Seed and preserving Fruits.*
By a DENBIGHSHIRE GARDENER.

Sir,

THE favourable reception experienced by my letter, inserted in No. VI. of your highly useful publication, (p. 171.) induces me to hope that the following observations, in continuation, will not be uninteresting to you and the readers of the Gardener's Magazine.

Preferring unripe potatoes for seed is not new in practice, — it has for ages prevailed; for where do the farmers of the rich soils and warm countries send for their seed-wheat and seed-potatoes? — To the cold, hilly countries, where they do not, one season in three, thoroughly and perfectly ripen their seed. In Denbighshire, we call the hilly or unripe potato the *wet* potatoes; and those from the rich soils and warm situations, where they ripen perfectly, we call the *dry* potatoes, although exactly the same variety: the wet, or unripe, are reckoned best for seed, and the dry for food. The potato tuber is a perfect organised system, in which the circulation regularly proceeds, and if suffered to ripen, will then tend to decay; but if separated, before ripe, from the stem or stalk, which furnishes it with blood or fruit-sap descending from the leaves, the circulation of the blood-sap is suddenly arrested. The ripe potato, having performed all its operations, becomes more inert; but the circulation of the sap in the unripe tuber having been stopped, it starts more readily, and with greater vigour when planted: — the one seems to die, worn out with age, the other seems accidentally to have fallen asleep, and when awoke, possesses an unspent vigour and energy. This is the case not only with the potato, but also with the apple, pear, and other fruits, whose life, if I may so express it, you wish to prolong or extend beyond the time naturally allotted

to it; you take them off the tree long before they are ripe, and experience has taught us that they will keep much longer, and eat much fresher, than those suffered to grow ripe upon the tree: the same is the case with the potatoes taken up before ripe. Placing the potatoes upon the gravel, or any dry but not grass walk, in the sun, has the effect of stopping the circulation in the tuber, in which nature has provided resources to carry it on to an extraordinary degree, unless so stopped.

If you will examine the potato stem or plant, when the tubers are beginning to be formed, you will find that the potatoes are placed upon the runners pushed or issuing out from the plant or stem *above* the set: the functions of the set are to push out roots to gather food from the soil to supply the plant and leaves with that food; and from the leaves the blood or fruit-sap flows down to form the runners and new potatoes; and the more you earth up the plant or stem, the more runners are formed higher up on the stem, and the more potatoes are produced.

Permit me to add, that all the best farmers in the warm and rich soils and warm climates find their account in changing their seed-wheat; for that they send to the poor soils and cold climates, often to the poor cold chalk-hills in Oxfordshire and Gloucestershire; and what is the sample of the wheat they obtain from thence? — notoriously the most shrivelled, from being cut before ripe. If farmers on rich soils would reap their wheat, preserved for seed, before ripe, they need not be at the expense, trouble, and inconvenience of sending 100 miles for their seed-wheat, which is often the case.

The present season of the year being favourable to you and your readers putting my observations in this and my former letter to the test, viz. earthing up the potatoes, causing them to be later; earthing them up, after taking away a few of the earliest, causing them to throw out new runners and produce more potatoes; the top or eye-cuts producing potatoes a fortnight earlier than the bottoms of the same tubers, &c.; I trust that I shall see the results of their observations in the ninth Number of your interesting publication.

Writing for plain, unlearned men like myself, I deem it unnecessary to hunt in dictionaries, and other such learned books, for scientific or philosophical terms to garnish my tale, the want of which, I trust, will not render it less useful, or less acceptable to you and your readers. I am Sir, &c.

A DENBIGHSHIRE GARDENER.

March 29. 1827.

ART. XXV. *Description and Use of a Horticultural Memorandum Book,* By a COUNTRY CLERGYMAN.

Sir,

IN reading your Magazine, and other horticultural works, I have found great benefit from the adoption of a plan, which I venture to recommend to the notice of others, through the medium of your useful publication.

It frequently happens, and particularly at this season of the year (January), that the account of some process, or of some experiment, strikes you as worthy of being put into practice, but the time for so doing is not yet arrived: the consequence too often is, that either the matter is entirely forgotten, or else it is jotted down amidst a heap of other memoranda, and probably escapes observation at the required season.

To obviate these difficulties, I have provided myself with a memorandum book, in which I have appropriated a certain number of pages to each month in the year; and by a contrivance similar to that used in the indexes of ledgers, I am able at once to turn to any particular month. The two first pages of all these twelve divisions are each of them divided by a line into two parts, by which means I can arrange the work to be done into separate weeks, and the remainder of every monthly portion is left for miscellaneous entries.

As an instance of the manner of carrying this plan into effect, I refer you to Mr. Borrowdale's article (p. 35.) on growing figs in pots. Supposing this an experiment which I wished to try, I should first turn in my memorandum book to March, and in the portion assigned for the second week in that month I should write, "Figs in pots (cuttings), L. G. M. ii. 35.;" and then, in like manner, make the proper entries in the first weeks of January and June respectively; adopting such a system of abbreviation as I can well understand. By thus noting down every particular which occurs to you in your general reading in its proper place, and referring to the work in which the full description of the process is given, you are sure to be reminded at the right season of what ought to be done, and directed at the same time where to seek the proper information.

From the simplicity of this plan, it very probably has been already adopted by others; but as I have mentioned it to several amateurs like myself, who had never heard of it before, but who, at the same time, approved much of it, I am induced to send it to you, hoping that by being published in the

Gardener's Magazine, it may prove of the same advantage to others that it has proved to me.

I am, Sir, &c.

January 11. 1827.

A COUNTRY CLERGYMAN.

ART. XXVI. *Abridged Communications.*

1. *Cultivation of the Cucumber at Thoresby Gardens, Nottinghamshire.* By Mr. THOMAS PARKIN, Foreman to Mr. Bennet, C.M.H.S.

Mr. P., with a commendable modesty, professes not to write for the instruction of practical gardeners, but for the information of such readers of our Magazine as have not the advantage of professional advice or assistance. The management of the cucumber frames at Thoresby Gardens is conducted with so much ability and success, that it is more than probable but few practitioners could desire a better return for their labour: 1024 fruit from 14 lights between the 13th March and the end of August; 5 of the lights not worked till the beginning of June. Mr. P.'s method is stopping the leading shoots early; again stopping wherever the fruit appears; compost, a light sandy maiden soil, mixed with decayed oak leaves or rotten dung; temperature of the frames from 75° to 95°; watering plentifully with warmed water as soon as the sun is off the plants.

2. *Setting the Blossoms of the more shy-bearing Kinds of Pears.* By Mr. JAMES MICHIE, Gardener to Sir Charles Hulse, Breamore House, near Fording Bridge, Hampshire.

A Gansell's Bergamot, twenty years old, on a wall with a S.W. aspect, which seldom bore any fruit, bore abundantly after being stuck over in the flowering season with sprigs of blossom from a standard Swan's Egg Pear. Some shoots of an adjoining Chaumontelle, trained in among the shoots of the G. B., had the same effect on that part of the tree. This mode of artificial fecundation Mr. M. has followed for several years with complete success.

PART II.

REVIEWS.

ART. I. 1. *Essay on the beneficial Direction of Rural Expenditure.*

By ROBERT SLANEY, Esq.

(Concluded from p. 184.)

2. *Colonies at Home: or, the Means for rendering the industrious Labourer independent of Parish Relief; and for providing for the Poor Population of Ireland by the Cultivation of the Soil.* London. Pamph. 8vo. pp. 27. 2 Plates.

3. *Thoughts on the Expediency of a General Provident Institution for the Benefit of the Working Classes; with Tables and Examples of Contributions and Allowances.* By JAMES CLEGHORN, Accountant in Edinburgh. Edin. Pamph. 8vo. pp. 43.

WE are now to enquire whether there are any means by which the superfluous agricultural population can be supplied with work. If such work, at the same time that it gave them employment, added to the capital of their employers, it would then embrace all that is, at any time, or from any cause, aimed at, in employing the poor; if, while it afforded them employment, it added, not to the profits, but merely to the gratification of their employers, still it is desirable and useful both to the poor and their masters: and in the present state of the country, we would almost go the length of embracing the opinion of a late statesman, that employing the poor to carry stones from one place to another, and to put them back again, is better for them than sheer idleness.

Let us enquire into the different species of these three kinds of employment. First; that kind which, while it gives work to the idle, increases the profit of their masters. We are afraid much cannot be done in this way: the complaint is, that all kinds of labour and trade are overstocked. Still something may be done: we confine our suggestions to agricultural labour. Is there an estate in the kingdom which may not be improved and benefited by having its bare and unfertile spots planted; by having its plantations, already made, kept cleaner or better drained? Are there no private roads to noblemen and gentlemen's houses, by repairing, levelling, and new form-

will be, till they, from superior education, will no longer be content, before they marry, with the prospect of the small portion and the low character of the necessaries and comforts which they now deem necessary. Let them acquire and act on that feeling or principle which will make them fix on double their present wages as absolutely indispensable; not that by means of the increase they might spend more in dissipation, but that they might obtain for themselves and families those means of improving their minds — those comforts which are at present confined to the ranks immediately above them — and those increased wages they must and will obtain, and be disposed and know how to employ them to the best advantage. But, till this period arrives, we must look to the state of the present generation: they are either starving, or become a burden to the rest of the community: in either case their character must suffer; it is suffering, and that nearly in the same degree with their condition. It is this consideration that has induced us to throw out hints respecting modes of employing the poor, that will in some measure arrest the evil in its progress; and we think we have laid down a general rule, by acting in accordance with which, some portion, at least, of the sum which, as poor rates, can have no other tendency but to deteriorate the character and condition of the poor, may, when laid out in the manner we have suggested, add to the profit, or at least to the gratification, of those who pay the poor rates, while at the same time it rescues the poor, by giving them employment, from all the evils of idleness, and, by changing what they receive into the shape of wages, arrests that depravation of character which the acceptance of relief as paupers must always produce.

But though Mr. Slaney has not dwelt so much on this point as we think he ought to have done, yet in the following extracts our readers will perceive some valuable hints: it is evident, however, that the principle we have particularly insisted upon, paying as wages what at present is paid as poor rates, has not occurred to him.

“Giving employment to the poor* is one of the best preventive charities, and by a little management this may always be provided beforehand. Some of the works spoken of under the head of roads, bridges, &c. may be kept

“* As clay burnt in kilns has been found by late experiments to be a most valuable manure, a landlord who has a kiln properly situated, may employ unoccupied workmen, under the superintendence of his bailiff, in preparing large quantities of an excellent manure, which may subsequently be disposed of to the farmers round at such prices as shall insure its reception and extensive use, until its merits are duly appreciated.”

for this purpose. Some occupation under cover suited to bad weather will be of great use, and may be easily afforded in cutting wood, chopping straw, breaking stones*, clearing brick, &c. more especially if a farm is occupied.†

“ The same quantity of employment at two different periods of the year is of very different value to a poor man.

“ It should be the object of the rich to provide it in time of need, and thus equalise, in some measure, the demand for labour throughout the twelve months.

“ If no work can be found ready for those in want of it, it may, at any time, be provided by offering to defray a certain part (say one third) of the expense of some improvement in the neighbourhood; on condition of its being done at a certain season of the year, and by workmen before unemployed.

“ In this mode of aiding the poor, one or two cautions are necessary :—

“ 1. The work so purchased should not be such as would have been done without a premium paid upon it; otherwise it does not at all increase the employment, even in one particular district—though its being done in winter rather than summer may alone be a great good.

“ 2. The men’s pay should be somewhat lower than the ordinary wages, that they may be induced, as soon as possible, to look out and get other work for themselves.

“ 3. This additional employment should be afforded at irregular intervals, so as not to appear a certain resource for the poor, otherwise they will be less frugal and industrious at other times.”

“ We have seen that the sum of employment is only increased by productive labour‡; but that, in some cases, a more regular distribution of work may compensate for a small diminution. If, then, the employment given falls within either of these rules, it will promote the happiness of the poor; but if not, it will probably do more harm than good.

“ It will be evident, that the money paid in wages to these workmen would have been laid out some other way; and elsewhere would directly or indirectly have employed labourers. But the workmen employed under the direction of a rich man, and for his caprice and amusement, are apt to consider themselves dependent, in some sort, upon his bounty, rather than resting upon the just remuneration for their toil; and are thus less frugal than ordinary labourers. If the employer dies, or removes or changes his mind, all these people, who have perhaps married, or been brought up looking to him for work, are suddenly discarded. Now although, if he had indirectly employed these workmen as mechanics or artificers to form the articles of luxury which he purchased his demand for their labour might in like manner cease, yet the effect would not be the same, because, being directly paid by the capitalists, their immediate employers, the cessation of demand of any one consumer would scarcely be felt, as another would arise in his place; and, in all events, the reduction of workmen employed would be gradual and almost insensible.§

“ * At two-pence halfpenny *per* bushel a man may earn, with ordinary diligence, where the stones are not very large, about fifteen-pence *per* day.”

“ † An Account of the School of Industry at Hofwyl. *Simonde’s Switzerland*, vol. i. p. 466.”

“ ‡ Whatever indirectly encourages productive labour, or lessens the vices which would diminish its proceeds, is as useful as productive labour itself.”

“ § This is one benefit arising from the progress of civilisation, by which the consumer and actual workman seldom come in contact, but deal through the intervention of a third person.”

"Nevertheless, the benefit to the country must depend upon the direction of the labour; and there can be little doubt that a rich man may do more good by employing a hundred men in making a commodious public road than by indirectly occupying them to form some useless article of luxury. In this case, however, the object furnishes the employment, and not the employment the object."

It has often forcibly struck us, that it was unnecessary and preposterous to encourage emigration, and to aid it at a great expense, for the purpose of settling our unemployed labourers on waste land two or three thousand miles distant, while at home, in England, Scotland, Wales, and Ireland, and in each individual county of each of these portions of the British empire, there were such numerous and large spots which might be improved at much less expense than is requisite to send emigrants to America or New South Wales, and, when there, to enable them to clear and render fertile the wastes in which they take up their abode. We are well aware of several objections to a plan of home colonisation, if the phrase may be allowed. Most of our wastes would not repay the labour and expense of cultivation. Granted: but several would; and we could point out many thousand acres, within fifty miles of the metropolis, which answer this description. Let any person open his eyes when he passes along commons, and he will scarcely fail to perceive small houses built near their edge, and small gardens attached to them; encroachments, indeed, but evidently proving that such commons are worth cultivating, and are cultivated to the advantage of the encroachers. Another objection is, that agricultural produce being already too abundant for the demand, the settlement we recommend, by rendering it still more abundant, would make the condition of the farmer still worse; and thus, while it benefited one class, it would injure another. This objection is plausible. The practical refutation of it might be difficult, but we think it might be overcome. Let us suppose one hundred families settled on some waste land in this country, part of them employed in raising corn and other articles of food, and the rest in the manufacture of the rude and simple articles which men in the lowest rank require: in this way, there would be an interchange among themselves, but no additional supply of any kind brought into the market; consequently, their labour would not interfere with the labour of any other part of the community. We have not time, nor room, to dwell on the details of such a plan; but we are convinced, not only that it is practicable, but that all objections to it might be obviated.

Mr. Allen, in his pamphlet, "*Colonies at Home*," to which we adverted in our last Number, strongly recommends a similar

plan; but he does not extend it so far as we have done: he would have them merely agricultural colonies. To these the objections we have noticed apply, but not to the colonies we have recommended, in which all the colonists required would be supplied by their own labour; and all their labour produced would be consumed among themselves. Differing, however, as we do in this single point from Mr. Allen, we most strongly recommend his pamphlet to our readers. It exhibits all that calm, deeply-seated, and practical benevolence for which the Society of Friends (to which he belongs) are so honourably distinguished. We thoroughly believe him when he assures us that the degradation in character and condition of the peasantry in Ireland *, and in some of the counties of England, has for years anxiously occupied his attention. We give such extracts as will enable our readers to form a judgment of the nature of the plan he recommends; but we again strongly urge them to peruse carefully the pamphlet itself.

“ The objects to which our efforts must be directed are these :

“ 1. To wean the poor from a dependence upon the parish, and what is falsely called charity, and to put them in the way of providing for all their wants by their own industry.

“ 2. To enable them to procure an education for their children, in moral, religious, and industrious habits.

“ 3. To raise such a moral and independent feeling in the poor, as may induce them to consider it a disgrace, and shame, to receive alms from the parish, or to engage in marriage, until they shall have made a reasonable provision for a family.

“ Every poor family residing in the country should be furnished with a small piece of ground, and instructed in the means of cultivating it to the greatest advantage. The loan of a small capital will be essential, and must be provided by a voluntary association of benevolent persons in any given district.

“ As decency and moral habits are greatly influenced by circumstances and situation, every poor family should be furnished with a cottage, containing a sufficient number of sleeping apartments to admit of the necessary separation of male and female children : there should be a good supply of water, and every facility given to insure cleanliness.

“ A Society should be formed in the district, comprehending a space round some central and populous village, included in a circle made by a radius of two miles, which should be called the Benevolent Society of ——— : a visiting committee should be formed of persons, of all religious denominations, who may be found willing to exert themselves in so great an object. This committee should subdivide their district into convenient portions, and appoint sub-committees to each : the assistance of females on these committees has been found of the utmost importance.

* In the introduction he informs us that he had just prepared his plan for the press, when he was induced to visit Ireland, where he found the poor deeper in misery and destitution, far below any thing he had witnessed among the poor in any other part of Europe.

" One great object of this Society might be, to encourage the formation of an association among the poor, for their mutual benefit. This association would give each family an interest in a cow, and a supply of manure for the garden, a point of the utmost consequence, as without an arrangement for a regular and constant supply of manure, all plans for cultivating the earth must utterly fail.

" It has been found, by actual experiment, that when pains are taken to dig land well with a spade, and to put all the manure upon it, which can be obtained, and to sow and plant it with suitable things, that a small garden, beside furnishing potatoes, cabbage, and other food for the family, might keep a pig or two; and four families, each having a garden of 64 rods only, by appropriating 36 rods of their garden to the growth of certain things to be pointed out, would be able to keep a cow all the year round.

" A cow eats about a hundred pounds weight of green food in a day and a night, and in the winter, may be well kept, upon a daily supply of

30lb. of yellow beet root.

30lb. of turnips, or carrots, or parsnips.

20lb. of potatoes boiled, or steamed.

7lb. of oat straw.

7lb. of hay.

This will be reckoned a very large allowance.

" It has been distinctly proved that half an acre, or 80 rods of land of average quality is sufficient to keep a cow, provided that the food be cut, and brought to her, in a place where she shall have room to walk about, and be able to get under shelter at night, and in rainy weather; therefore, if sixteen families were to join together in an association for their mutual benefit, they might keep four cows between them; or twenty families, five cows; twenty-four families, six cows, and so on. The following is a sketch of the proposed association:

" An association shall be formed of agricultural labourers and others, under the name of the Independent Cottagers of ———, the object of which shall be to promote the comfort and happiness of the members, to render them independent of parish relief, and, if possible, to make some provision against sickness or accident. Every member on admission shall sign the following engagement, and is to be expelled the association if he break it:

" 1. To observe, strictly, moral conduct.

" 2. To receive no allowance whatever from the parish.

" 3. To cultivate the garden with which he will be intrusted, in the manner that shall be prescribed. To underlet no part of it, not to damage or remove any shrubs, or trees, and to keep the land manured to the satisfaction of the proprietor.

" 4. To send all his children, who may be of a suitable age, to the schools of industry, unless a satisfactory reason why they should not be given.

" 5. To observe the bye-laws which may be agreed to by the majority.

" Cows shall be kept in the proportion of one cow to every four families. The milk, after having been once skimmed for butter, shall be equally divided among the members, as shall also the manure from the cows.

" The Benevolent Society of ——— will advance the money for cows, and also for the purchase of tools; and hay and straw for the cows in winter: likewise the rent of the gardens, and salary of the dairyman, and will charge interest at the rate of 5 per cent. per annum. The butter shall be sold, and carried to the credit of the account, and every member shall pay sixpence per week to the fund.

" Each member shall be equally interested in the stock of cows, so long as he keeps up his contributions, either in money or otherwise, and in

proportion as the debt to the Benevolent Society is discharged, a corresponding portion of interest shall cease. When the whole shall be paid off, the cows shall become the property of the association.

"Each member shall be furnished with a garden, consisting of 64 rods of ground, which shall be kept free from weeds, and cultivated in the following manner, which is calculated to afford food for the cows, both in winter and summer, or in any other manner to the satisfaction of the proprietor, or his agent, as farther experience may point out. Thirty-six rods must be cultivated for food for the cows, viz.

- No. 1 to 8 Potatoes.
- 9 to 14 Cabbage.
- 15 to 16 Yellow Beet.
- 17 to 22 Turnips.
- 23 to 24 Yellow Beet.
- 25 to 30 Lucern.
- 31 Parsnips.
- 32 Carrots.
- 33 to 36 Tares.
- 37 to 44 Buckwheat.

"Every member will be furnished with a pig, as soon as his garden shall be in a state to keep it; also a hive of bees, and necessary tools; all which he is to pay for by instalments.

"The whole year, of 365 days, shall be divided into 185 days of summer, and 180 days of winter. Every member shall, during the 185 days of summer, beginning on the 20th of the fifth month (May), and ending on the 21st of the eleventh month (November), bring or send to the dairyman twenty-five pounds weight of good green food per day, either cut-grass, lucern, tares, cabbage, yellow beet leaves, or mangel-wurzel leaves, or any other green food which the dairyman shall approve of; and the dairyman shall be at liberty to reject such food as he may think not good enough.

"Every member shall, during the 180 days of winter, beginning on the 21st of the eleventh month (November), and ending the 20th of the fifth month (May), bring or send to the dairyman

5 pounds of boiled potatoes.

8 pounds of yellow beet root, or mangel-wurzel root.

8 pounds of Swedish turnip root, or parsnips, or carrots."

Mr. Allen gives short and judicious directions on the subject of manure, and the cultivation of the different crops.

The following extracts deserve attention:

"This plan is adapted, not only to the agricultural labourer, but to the labourer in manufactories also, where ground can be procured within two miles of his work, — the effect upon health and morals would be incalculable; and if a season of distress should arise, from a stagnation in the current of trade, the workmen would not be in immediate danger of starving, as has often been the case with the miserable silk-weavers in Spital-fields, and those who work in cotton mills, where the health, comfort, and morals of the labourers are disregarded. Labourers with such a cottage and land would be able to make deposits in the Savings' Banks, and thus provide for sickness and old age."

"As the moral instruction of the children is an object of the highest importance, every cottager should be bound to pay 6d. per week towards an education fund. One of the cottagers should have a school-room capable of holding all the boys, another, a room capable of holding all the girls, and a third, a room for an infant school. One of the cottagers should be a

a man capable of teaching the children reading, writing, and arithmetic, and other branches of useful knowledge, as netting, knitting, &c., four hours a day, for which he should receive 10s. per week; this would leave him ample time to cultivate his farm. A female, competent to the care of a girls' school, should receive 8s. per week for teaching the girls, and a woman, of kind disposition, 7s. per week for taking care of the infant school.

"The boys, when of a suitable age, should be employed on the farm; they would thus become skilled in the rotation of crops, and the most profitable modes of cultivation. The writer has seen a girl of seven years old, who had been taught to milk a cow, and could do it as well as a grown person.

"Upon this system, not only may the linen weaver be provided for, but any of the handicraft-men enumerated at page 19. Thus there might be a village of shoemakers, stocking weavers, or any other trade. In the case of a village, it would be very desirable to put it under the care of a committee of benevolent persons in the neighbourhood.

"The theoretical objection which has been made against providing for the comfort of the poor, that they would thereby increase to an inconvenient extent, is best answered by matters of fact; with regard to Ireland, it is an undeniable fact, that the increase of the poor population is greatest of all, precisely in those districts where the means of support are the least, where the ignorance is greatest, and where the poor are very little better than savages; here they multiply in the highest ratio, because there are no moral checks, and because they seem to consider that marriage, and a family, cannot sink them lower in the scale of wretchedness. The fact, on the other hand, is, that a good education, and a respectable standing in society, are actually found to operate as a moral check to improvident marriages; and we may very fairly calculate upon it, that a young man and young woman, educated as the poor upon this plan would be educated, would be earnest to save money, and secure a situation, where they might live in the same comfortable and respectable manner as their parents had done before them. Instead, then, of encouraging emigration, at an enormous expense per head, rather let that money be applied in the establishment of colonies at home, and the increase of our national strength. If these plans were judiciously pursued, it would soon be found, that we have not one man, woman, or child, too many in Ireland, and that the country is capable of supporting many times the amount of its present population in high comfort."

Colonies, somewhat on this plan, are established in the Netherlands. By an extract from a Brussels paper, sent us by a correspondent, they seem to be going on well. We should be obliged to that correspondent to send us some information respecting the period and cause of their origin, their precise object, and any other particulars he may deem interesting and instructive.

This is rather an unpropitious season to recommend saving of money among the labouring classes; but as we hope there are still many who have the power to save it, and as it is desirable that they should know how to exercise this power to the best advantage, we would recommend to their notice, as well as to the notice of all who are the friends of the labouring classes, "*The Thoughts on the Expediency of a General Provident Institution for the Benefit of the Working Classes, by James Cleghorn, Accountant in Edinburgh.*" This pamphlet

is evidently the production of a man of sound sense, enlightened views, and a practical knowledge of the state and character of the people for whose benefit he writes. The table of contents will point out the importance of this pamphlet; viz.

“ SECT. I. Condition of the Working Classes. — II. The Means which they have resorted to, to protect themselves against want, and to improve their Condition. — III. A GENERAL PROVIDENT INSTITUTION, under the Authority of Parliament, suggested. APPENDIX. No. I. Tables and Examples of Contributions and Allowances. — II. Notices of the Acts relating to Friendly Societies and Savings Banks.”

And the following extract will point out the nature and object of the particular plan he recommends : —

“ The business of the institution would thus fall to be arranged under two great departments, viz. the Banking and the Assurance department. Of the former, which should be confined to receiving small sums, improving them at compound interest, and returning them on demand, or after a few days' notice, it is unnecessary to say any thing. But as to the latter, or the Assurance department, the following suggestions may not be unworthy of consideration.

“ 1st. The first question necessarily is, what are the risks to be covered by the proposed assurance department? And to this I would answer generally, the risks commonly taken by life-assurance companies at present, with the addition of Health Assurance, or allowances in sickness. A weekly allowance in sickness, an annuity payable weekly in old age, or after 60, and a sum to be paid at death, which, at the pleasure of the contributor, might be converted into a life-annuity to his widow, according to her age at the time, or applied in any other way which he might direct ; — the business of the assurance branch would probably be confined to these. A small payment for the funeral of a wife, or child, might also be assured by itself ; but this is evidently of the same nature, and its value, or the annual contribution necessary, would be calculated upon the same principle as the payment at the death of the contributor himself. *

“ 2d. The risks to be covered should have each of them a separate rate of contribution, and not be paid for in one sum, and without distinction, as in Friendly Societies.

“ 3d. Any one risk should be covered by itself ; a person, for instance, might purchase an allowance in sickness, or an annuity for old age, or a sum to be paid at death, — any one of these without the other two, or any two of them without the third.

“ 4th. It has been mentioned as a necessary condition, that the institution should be open to all, without distinction of sex, age, employment, or religious denomination ; but in the assurance transactions, an exception must be made of what are deemed bad lives, in the case of allowances in sickness and at death ; and this further exception belongs to the very nature of the institution, which is not intended for the middle and higher ranks ; namely, that the sums to be assured shall not exceed what may appear suitable to the condition of the labouring classes. For want of this necessary limitation, the public have been sustaining a considerable loss of

“ * For the method of ascertaining the value of each of these kinds of assurance, according to the Tables of the Highland Society, see the Examples in Appendix, No. I.”

interest in the case of the Savings' Banks, which the late act (5th Geo. IV. c. 62.) provides against in future.

" 5th. The institution should be bound, on three months' notice to that effect, to purchase the interest or the policy of the assured at its fair value, less by a deduction of a per centage to cover the charges; but with such exceptions as may be necessary to prevent fraud.* The purchase-money, whatever might be its amount, should be allowed to be re-invested in the Banking department.

" 6th. The depositor in the Banking department should be at liberty at any time, subject to the exception of being a bad life, to transfer the whole or any part of his deposits, or the interest thereof, to the Assurance department, as the single payment, or annual premium, for any one or more of the allowances before mentioned.

" 7th. Friendly Societies and Savings' Banks should be allowed to subscribe their funds into this institution; the members of such Friendly Societies to have such allowances as any other individuals at their age might obtain for the sums so subscribed. The church-wardens and overseers of the poor also might be allowed to purchase annuities for such paupers as were likely to be permanently burdensome to the parish."

We have thus gone into a subject which every day becomes more important and serious, because every day the condition of the labouring classes seems to be sinking. If any thing we have suggested tend, in the smallest degree, to point out a method by which this degradation of character and condition may be arrested, we shall deem the labour we have bestowed on these papers not mis-spent.

ART. II. *Transactions of the Horticultural Society of London.*
Vol. VI. Part IV. London, January, 1827.

TWENTY-THREE papers, above a dozen of which are by practical gardeners, and the rest chiefly by officers or servants of the Society. The plates are a diagram register of the rain gauge and thermometer, a tree pæony, melon pits by Mr. Haythorn, similar to those in his communication to us (p. 279.), and plums.

40. *Method of cultivating the North American and other Hardy Orchidæous Plants.* By Mr. Stewart Murray, C.M.H.S. Curator of the Botanic Garden of Glasgow. Read February 7. 1826.

Place on a well-sheltered border, facing the south, a glass-frame $9\frac{1}{2}$ feet wide, $2\frac{1}{2}$ feet high at the back, 15 inches high in

" * A regulation of this kind, which has been adopted by some recently established Assurance Associations, is very much wanted. The members of Friendly Societies at present commonly lose all benefit from their contributions when they leave the country, or even their parish, or enter into the army or navy; and, what is a still harder case, whenever, from poverty, they are unable to continue them."

front, and of any required length; dig out the original soil within the frame to the depth of 16 inches, and fill up to the old level with the following compost; viz. one third leaf mould, one third turfy peat recently taken from the moor, the remaining third half sphagnum, (that is, living plants of bog moss,) and half sand, the whole well broken and mixed together, but not sifted. In this the roots are planted, and some care taken to keep the surface higher for those kinds which require less moisture, such as *Cypripedium arietinum* and others. Regular watering and occasional shading is necessary; and sufficient air must be admitted to prevent the plants from being drawn. The plants flower in the early part of summer: — in autumn the old stems are cut away, and a slight dressing of the compost given, and during hard frost the frame has a covering of mats.

A North American summer and winter are thus successfully imitated, and the American Orchidæe cultivated with the most complete success. (*To be continued.*)

ART. III. *Catalogue of Works on Gardening, Agriculture, Botany, Rural Architecture, &c. published since February last, with some Account of those considered the most interesting.*

BRITISH.

Curtis's Botanical Magazine, or Flower Garden displayed; New Series.
 Edited by Dr. Hooker. In 8vo. No. III. 3s. 6d. coloured; 3s. plain.

No. III. for March, contains

2720 to 2726.—*Protéa longifolia*, *Dichorisandra oxypétala*, *Justicia speciosa*, *Begonia undulata*, *Conospermum taxifolium*, *Gesneria aggregata*, and *Habenaria leptoceras*.

No. IV. for April, contains

2727 to 2728.—*Caryocar nuciferum*, Souári, or Butter Nut of the shops, 16 and 4, and *Rhizobolæ*. Arborescent, the tree attaining a very considerable size; native of S. America. The flowers are very large, the calyx two inches broad; the corolla consists of five large elliptical concave petals, purplish brown outside, and yellow and red inside; stamens exceeding 4900. This plant has not been introduced in a living state, but the present figure is from drawings by the Rev. Landsdown Guilding of the island of St. Vincent. (*Gard. Mag.* vol. i. p. 195.) The kernel of the butter nut is said to be of a pure ivory white, soft and fleshy, somewhat oily, and of a very agreeable flavour; it is not uncommon in the London fruit-shops.

2729 to 2733.—*Maxillaria Parkeri*, *Neottia grandiflora*, *Houttynia cordata*, *Scaevola Koenigii*, and *Campanulata Prismatocarpus*.

That distinguished botanist, Dr. Hooker, having undertaken the editorship of this parent of botanical periodicals, has conferred on it a new interest and vigour, such as might reasonably have been expected from the author of the "Exotic Flora." One feature, which we entirely approve, is the introduction of figures and descriptions of plants, which, though not

yet introduced in a living state, are of particular interest to all readers connected with the commerce of the country or its foreign possessions. The Butter Nut, above described, is an example of this improvement.

Edwards's Botanical Register. Continued by John Lindley, Esq. F.L.S. In 8vo. Numbers. 4s. coloured.

No. CXLV. for March, contains

1041 to 1050.—*Myrtus* ? obscura; (the ? indicates a doubt whether it be really a species of Myrtle, the seeds not having yet been examined) *Geissoméria longiflora*, *Oxalis tenéra*, *Clitória virginiana*, *Fuchsia parviflora*, *Crinum sumatranum*, *Oncidium divaricatum*.

No. CXLVI. for April, contains

1051 to 1058.—*Dodonæa oblongifolia*, *Fuchsia gracilis* var. *multiflora*, a small bush resplendent with purple, green, and crimson, raised from Chilean seeds in 1824; easy culture. *Gonolobus grandiflorus*, *Oxytropis Lamberti*, and *Tradescantia virginica* var. *pilosa*.

Æsculus carnea, flesh-coloured horse-chestnut, "one of the most beautiful of all our hardy trees; resembling the common horse-chestnut in general appearance, but smaller, and bearing a profusion of fine bunches of rich flesh-coloured flowers." Whoever has a common horse-chestnut in his garden may have buds of this new species inserted in the side shoots in July next, which, in the spring following, would probably flower. Plants may be had at Messrs. Loddiges; but the planting season being past, cuttings may be asked for from the Chiswick Garden, from whence the fig. in the Botanical Register was taken. All the horse-chestnuts are beautiful, but this species is eminently so. See Arnott in Jam. Phil. Jour. Mar. 1827.

Nicotiana multivalvis, white Columbia tobacco, a handsome hardy annual, with an intolerably offensive odour. *Triumfetta micropetala*.

We are glad to observe that most of the figures in this and the preceding Number are from plants in the garden of the Horticultural Society: it is much better that a Society should encourage others to do things than attempt them themselves. We hope the projected quarto work on plants which flower in the Chiswick garden will never see the light; it would indeed be most impolitic, as well as improper, to attempt such a work when we have already so many publications having the same object in view, and perfectly well conducted. At no former period has this country displayed such a number and variety of elegant and useful botanical periodicals; and as some of them are within the reach of every reader, we may reasonably hope for the wide diffusion of this branch of science and taste.

Botanical Cabinet. By Messrs. Loddiges. In 4to. and 8vo. Parts. 5s. and 2s. 6d.

Part CXIX. for March, contains

1181 to 1190.—*Orobis sylvaticus*, *Patersonia glauca*, *Ornithogalum aureum*. An elegant bulbous-rooted free flowering plant, native of the Cape. *Gnidia ochroleuca*, *Plectranthus australis*, *Erica epistomia*, *Magnolia yulan*, *Desfon.*, (*yu* purple, and *lan* lily, the name applied by the Chinese to the purple *Magnolia*, but by some accident given to this species when first introduced; *pack* is white. J. M. Perhaps Mr. Salisbury's specific name *conspicua* is on this account preferable,) native of China, introduced, in 1780, by Sir Joseph Banks, but little known during twenty years afterwards; a beautiful tree, height thirty or forty feet, perfectly hardy; flowers in April, covered with white tulips, having a fine delicate fragrance. Inarching on the *M. purpurea*, fresh loam with a little peat. *Ophrys alpina*, *Polygala cordifolia*, *Ponthieva petiolata*.

Part CXX. for April, contains

1191 to 1200.—*Albúca mājor*, *Leptospermum lanigerum*, *Linum Trigynum*, *Erica paniculata*, *Thunbergia coccinea*. From seeds from Calcutta, stove, climbing plant, flowers freely in autumn, cuttings, light rich loam; "a charming acquisition, the blossoms being particularly beautiful and striking." *Dichorisandra thyrsifolia*, *Bauera humilis*, *Camellia japonica*, *Persoonia spathulata*, *Amaryllis solandrafolia*.

This part completes the twelfth volume of this admirably executed and truly cheap publication. The small-sized paper edition, containing ten plates, a part of each of which is coloured, and which, to our taste, is more interesting, and to young persons studying drawing certainly more useful, than if the plates were completed, costs only 2s. 6d.! To complete the colouring of these plates, and add MS. notes in the margin, would be a charming and instructive female exercise.

Geraniaceæ. By Robert Sweet, F.L.S. &c. In Numbers. 3s. each.

No. LXXXVII. for March, contains

345 to 348.—*Cicónium crevatum*, *Pelargonium pedunculatum*, *caryophyllaceum*, and *Southcoteanum*.

No. LXXXVIII. for April, contains

349 to 352.—*Pelargonium Francisii*, *Cicónium Bentinckianum*, *Pelargonium abrotanifolium*, and *ramigerum*.

The British Flower Garden. By Robert Sweet, F.L.S. &c. In 8vo.

Numbers. 3s. each.

No. XLIX. for March, contains

193 to 196.—*Chrysanthemum tripartitum*, perennial, yellow flowers, which appear in winter if protected under glass, introduced from China, a few years back, by Mr. Brookes, of the Ball's Pond nursery, Islington; hardy, but not handsome; *Lathyrus mutabilis*; hardy, perennial, two to three feet high, purple flowers, handsome; *Yucca acuminata*, resembles a weak plant of *Yucca gloriosa*; *Primula prænitens*, var. *albiflora*, white-flowered Chinese primrose, sub-perennial, thriving well in pots in a light window of a warm room, or in the greenhouse, where it will flower nearly all the winter. Seeds ripen plentifully. — Worth purchasing.

No. VI. for April, contains

197 to 200.—*Leonurus heterophyllus*, various leaved mother-wort, *Labiatae*, annual, stem two feet high, flowers numerous, pink, pretty; raised in 1825 from seeds from the Brazils sown on a hot-bed or in the greenhouse, and when of sufficient size, to be planted out in the flower borders, where it will continue to flower all the summer; *Mandragora præcox*, early flowering Mandrake, *Solanææ*, raised from seed from Switzerland, flowers yellow, succeed well in a rich light soil, but requires a little covering in winter; *Orchis Schleicheri*, Schleicher's O., *Orchidéæ*, bulb from Switzerland, flowers in April and May, purple, thrives in light loam, peat, and sand; *Daphne hybrida*, Hybrid D., *Thymelææ*, flowers in February under glass, probably in April in the open air, numerous, flesh-coloured flowers, lately received from France under the name of the Dauphin's Daphne, without doubt of hybrid origin; a very desirable evergreen shrub, sweet-scented, beautiful, readily increased by grafting or inarching on the common wood or spurge laurel, succeeds well in a light sandy soil.

Cistinææ. By Robert Sweet, F.L.S. In 8vo. Numbers every alternate Month. 3s. each.

No. XI. for March, contains

41 to 44.—*Helianthemum Sedifolium*, an annual, with yellow flowers, a native of England; *Cistus obtusifolius*, a pretty bush, eighteen inches high, covered with white flowers a good part of the summer, frame, cuttings;

H. frasilien'se, slender, yellow flowers in autumn, frame cuttings; *C. incár-nus*, shrubby, large purple flowers, curious and showy.

Flora Australásica; or the Plants of New Holland and the South Sea Islands.

By Robert Sweet, F.L.S. In 8vo. Numbers Monthly. 3s. each; a Volume to contain 25 Numbers.

Mr. Sweet is so generally known as an accurate and skilful botanist and cultivator, that any work by him is certain of being well received by the public. The department of exotic vegetation on which he has now entered is one of the highest interest; it belongs to the opposite part of the globe, and has an aspect of singularity and beauty peculiar to itself. The greatest part of the plants which he will describe will consist of evergreen free-flowering shrubs, handsome in every stage of their growth; sometimes singular in foliage; generally elegant in form; curiously beautiful, rich, or brilliant, when in flower; and the flowers in many cases are highly odori-ferous. Most of these plants are more hardy than natives of the Cape; the whole may be kept in a sunk pit in a dry soil; or if in a wet soil with hollow walls and a hollow bottom, well covered in severe weather; and Mr. Sweet observes, that "many of them will succeed in the open border by the side of a wall, to be slightly covered in winter, and probably without any covering in the more southern counties." Their being evergreen, handsome in every stage of their growth, so hardy as not to require fire heat, and at the same time singular and rare, are circumstances which place them in the highest class of greenhouse or conservatory plants.

No. I. to be published in June, contains

1. *Corræ'a pulchélla*, 8 and 1, and Rutáceæ Diosmææ. A handsome growing erect bushy shrub, thickly clothed with leaves, and scarlet tubular flowers; from Kangaroo Island, on the S. E. coast of New Holland, in 1824, "by Mr. William Baxter, C.M.H.S., the indefatigable collector of F. Henchman, Esq. F.L.S. H.S., and raised in the nursery of Mr. J. Mackay, F.L.S. H.S., at Clapton." Flowers the greater part of the year; light turfy loam, peat, and sand; very hardy, and believed capable of enduring our winters if planted by the side of a wall in a south aspect.

2. *Plagiolóbium chorizémæfólium*, 17 and 10, and Leguminósæ Papilion-áceæ, an erect shrub, crowded with prickly leaves, and profuse in deep blue pea blossoms. From New Holland, and raised at Clapton as before. The generic name is given by Mr. Sweet, and composed of the Greek words plagios, transverse, and lobos, a pod.

3. *Dryándra longifólia*, 4 and 1, and Proteáceæ; a stout handsome ever-green shrub, with leaves remarkable for their singularity and elegance, and terminal flowers consisting of a close brush-like bunch of stamens with yellow anthers. From Lewin's Land, in 1805, figured from the Bristol nursery of Mr. Miller.

4. *Epácris impress'a*, 5 and 1, and Epacrídeæ; an elegant, upright, slender-branched shrub, like a heath on a large scale, profuse in tubular flowers of a fine lake colour. From Van Diemen's Land, by Baxter, and raised at the Clapton nursery. Light sandy peat well drained. Generic name from epi, upon, and akros, the summit, from inhabiting the tops of mountains.

The Botanic Garden. By B. Maund. In small 4to. Numbers Monthly. 1s. 6d.

No. XXVII. for March, contains

105 to 108.—*Atrópa belladónna*, *Polýgonum divaricátum*, *Eupatórium maculátum*, *Diánthus hispánicus*.

No. XXVIII. for April, contains

109 to 112.—*Solánum dulcamára*, *Dáphne Tarton-raíra*, *Fumária lutéa*, *Lílium canadénse*.

Since its commencement, this publication has greatly improved in the execution of the plates, and we are happy to learn that it has a very extensive sale. Its low price, and the very judicious manner in which the letter-press is composed, giving the derivation of the name, historical notices, descriptive traits, and culture, will, we have no doubt, be the means of originating a taste for botany among a new class of readers.

Medical Botany; or Figures and Descriptions, towards a System of Vegetable Toxicology and Materia Medica, &c. By John Stevenson, M.D., and James Morss Churchill, Esq., Surgeon. In Monthly Numbers, 3s. 6d.

No. II. for February contains

Leontodon Taraxacum, a gentle aperient and diuretic; *Datura Stramonium*, originally imported from America, but first cultivated in this country from seeds that were brought from Constantinople, about 1597. It is now naturalized, and met with in waste places, and near gardens. Stramonium produces intoxication, delirium, loss of memory, sometimes transitory and sometimes permanent; convulsions, &c. and death. "Of the intoxicating quality of their native species of Stramonium, the women in some of the Asiatic Islands, we are informed by travellers, so dexterously avail themselves, as not only with impunity to use the most indecent freedoms, but even to enjoy their gallants in the company of their husbands, who, being presented with a proper quantity of this soporific and Lethæan drug, are at first seized with a fatuity and pleasing delirium, which are soon followed by those very convenient symptoms, stupor, and a total want of recollection:" and so general was this credulity in former times, that the Royal Society gravely enquired of Sir Philberto Vernatti, "Whether the Indians can so prepare the stupifying herb *Datura*, that they make it lie several days, months, or years, according as they will have it, in a man's body; and at the end kill him without missing half an hour's time?"

In Virginia, where the Stramonium is called the Jamestown weed, the leaves boiled and used as greens, turned some soldiers sent thither to quell a rebellion, into good-natured fools, for eleven days, after which they "returned to themselves again, not remembering any thing that had passed." Dr. Bartram, of Philadelphia, was called to a child seized with idiotcy without fever. "The child appeared very happy; talking, laughing, and in constant motion; yet so weak, it could not stand or walk without tottering. He exhibited an emetic, and the seeds of the *thorn apple* were rejected, after which the child recovered." To counteract the effects of Stramonium, Read's pump or emetics, as in the case of *Atrópa*, must be resorted to. (*Gard. Mag.* p. 211.)

Spigelia marilandica, a low perennial handsome flowering American plant, a native of America, as the specific name implies, and used there by the Cherokee Indians, as a vermifuge.

Æthusa cynapium, fool's parsley, a well known native, and found in most gardens, and dry, rich arable fields. A powerful poison, unattended with the "gay delirium" (*Gard. Mag.* p. 211.) of *Atrópa*, or the foolery of Stramonium. A boy of six years, who had taken some of the plant for parsley, at four o'clock, began immediately to utter cries of anguish, complained of cramps in the stomach, assumed a livid hue, and died at midnight. Another child, though the contents of his stomach were rejected, went out of his senses, but by great care ultimately recovered. Two ladies of Castle Donnington in Leicestershire, partook of some salad, into which some fool's parsley had been put for common parsley; they suffered a great deal, but ultimately recovered. An account of this case, communicated to the Medical and Physical Journal (Vol. XIV. p. 425.) by Mr. Stevenson of Kegworth, son-in-law to the celebrated Mr. Speechly, of Welbeck Gardens,

first brought the former gentleman into notice, and he is now one of the most eminent surgeon dentists in London.

Anon. Outlines of Botany; first sketched for the use of his Nieces.
London, 12mo. pp. 28.

A neat little production, the object of which is most amiable. Few amusements or recreations are so suitable for ladies as botany and horticulture, and yet how very few lovers of flowers and gardens give elevation and intensity to their taste, by mingling with it a little science! Systematic botany, vegetable physiology, the practice of sketching landscape, and reading poetry, are the sources of associations for the enjoyment of rural life.

Hay, James, C. M. H. S., Gardener, Totterdown-hill, Bristol: Two Letters addressed to Joseph Sabine, Esq., Secretary to the Horticultural Society.
Bristol. 12mo. pp. 12.

In the Introduction and first Letter, the author compliments George IV., Joseph Sabine, Esq., and the Managers of the Horticultural Society, who "so essentially contribute to the great benefit of the world at large, and at the same time advance the honour of God." In the second Letter "animated by a sincere desire to encourage and promote every experiment calculated to advance the improvement of any system of gardening which the Horticultural Society, from their collected opinion, may judge proper to adopt," and hearing that they intended to erect a flued wall in the garden at Chiswick, he sends them a plan, and a letter of remarks. As he has not described this plan, nor given a figure of it in his publication, we are deprived of the benefit of knowing his ideas on that subject. We can add, however, from his first letter, a short description of Paradise, which, according to Mr. Hay, was "a garden; a place of innocence, of uninterrupted peace and boundless joy; a place of inconceivable grandeur, dignity, and transcendent glory; of incomparable and supreme delight, and indescribable and never-ending felicity." We cannot agree with Mr. Hay, that this was "a happy situation," especially for "mortal man." The "inconceivable grandeur," and "transcendent glory," would, we fear, press rather hard on our "peace" and "joy,"—force us to conceal ourselves among the trees; and, perhaps, ultimately frighten us out of the garden. We are happy, however, to concur with the author in his commendation of the study of natural philosophy as conducive to horticultural improvement. And though we cannot exactly desire to encourage and promote "every experiment which the Horticultural Society," or Mr. H., or any one else, may "judge proper to adopt;" yet we should be happy to receive from him a copy of the plan of his hot-wall for the benefit of our readers. The idea of the Horticultural Society advancing the "honour of God," is at once philosophical and religious; the true way either for a society or an individual to worship the Divine Being, is to pursue unremittingly their vocation—to do their duty. God is honoured by them that honour themselves.

The Transactions of the Linnean Society of London. Vol. XV. Part I.
London. 4to. 12. 10s.

Nine papers on Zoological subjects, and one a Commentary on the Hortus Malabaricus; the latter of no horticultural interest.

Catalogue of the Library of the Linnean Society of London. London.
8vo. 2s.

Between 600 and 700 volumes of botanical and zoological books, with a few on relative subjects.

Transactions of the Horticultural Society of London. Vol. VI. Part. V.
London. 4to. 1 pl. coloured figure of the Mango.

Five papers, title, contents, index, &c. The substance of which, and the remainder of Part IV., we shall give in next Number.

Johnson, Cuthbert William, Author of an Essay on the Uses of Salt for Agricultural and Horticultural Purposes, &c. : Observations on the employment of Salt in Agriculture and Horticulture, with Directions for its Application, founded on Practice. London. pamph. 8vo. pp. 16, 3d edit. 6d.

A very similar tract to that of Mr. Collyns (p. 212), but containing more on the subject of the employment of salt in Horticulture. The object in view will be best understood by the following letter, to which we beg the particular attention of "Agronome :"

"Great Witham, March 17, 1827.

"Inclosed is a copy of a tract upon the uses of salt in agriculture, of which I beg your acceptance. My brother has arranged it for general circulation among agriculturists ; but, containing many new facts, it may in some measure be considered as an appendix to his essay on the same subject. Two very large impressions have been disposed of. I will take this opportunity to observe, if you will allow me two or three pages of your Magazine, upon some of the difficulties of the question ; premising that we have no interest in enforcing salt upon the attention of the various cultivators of the soil, further than that which should actuate every man in a cause which he may consider is for the benefit of his country. The conviction of its utility, which prompts us to advocate the employment of salt as a manure, is the result of some years' experience, and is not founded upon a few experiments, limited in extent and locally confined, but on trials upon acres as well as yards of surface — by practical men with the bushel, and by men of science with the balance. In my brother's essay are detailed the experiments of 55 persons, including men of rank, plain agriculturists, and scientific experimenters ; thirteen of our counties have been the arenas of the experiments. But the use of salt as a manure, is not confined to England ; it extends from the rice growers of Hindostan to the flax cultivators of America ; it has been applied with advantage to the fields of France, as well as to those of Nubia. Leaving out of the question all testimony from the Scriptures, and of writers but little inferior to them in date, there is not a publication in this country upon the general cultivation of the soil, from Lord Bacon, in 1626, to the present day, which does not advocate salt as an assistant to vegetation in some form.

"I do not hesitate, Sir, to state as my conviction, that there is no plant which is fostered either by the gardener or the farmer, that cannot be benefited by a judicious application of salt ; this is an axiom which Time, the test of all truth, will, I believe, firmly establish.

"It is a misfortune incident to all projects, that patience, and a desire prompting to the determination of illustrating truth, are mental gifts not quite so "plentiful as blackberries." Prejudice and self-sufficiency, the offspring of ignorance and contracted mental powers, unfortunately are abundant.

"Facts are upon record, which demonstrate that a given crop on a given soil, is benefited by the application of salt some months before sowing. This is generally the case ; whilst other crops on the same soil are most benefited by having it applied at the seed-time. Some crops and soils show most superiority with twenty bushels per acre ; others are most productive with five bushels.

"Crops cultivated for seed, seldom or never show any superior luxuriance after the first stages of growth; if they do even then; the increase is in the bulk and weight of the seed.

"These peculiarities are the foundation of the opposition to the employment of salt as a fertilizer. How few farmers will take the trouble to ascertain these points! How few will follow an experiment to the measure which does not promise anything to the eye! How few will vary the time and quantity of the application! I do not hesitate to say, that all the successful experiments which are recorded as made by strictly practical men, are entirely the results of chance; chance determined both the time of applying the salt, and the quantity used. Had any other season or quantity been casually adopted, the result might have been unfavourable, and the experimenters ranged themselves with the opponents of salt. Another class of the opponents of salt manure, are those who have witnessed the devastating effects of an excess of salt; they cannot imagine a small quantity can benefit, when a large one destroys. Your correspondent "*Agro-nome*," appears to be an opponent of salt from all the above causes. He evidently never has tried an experiment with salt; he was "twenty years ago" self-sufficient; his letter teems with something a little like a spirit of prejudice, and he holds up some ash trees "whose sap was completely converted into brine," by applying salt abundantly to their mangled bark and roots, as a warning extremely notable. His detail of the application of salt to the fallow field, is decidedly favourable to its employment. There is one absurd misrepresentation in his letter, which may require correction; he observes, "Mr. Johnson says, that weeds grow more luxuriously on walks after having been killed by salt." This is a moderate specimen of false quotation; my words are, "Those who apply salt for this purpose, (the destruction of weeds on gravel-walks), must repeat the application at least every other year; if the salt is not in excess, it promotes the growth of the weeds," (*Gard. Mag.* vol. II. p. 2.) — not those which have been destroyed, but others which will succeed them. In his remarks upon applying salt to pinks and carnations, he should have kept in mind that it is the practice of Mr. Hogg of Paddington, and not my own unadvised recommendation.

"In conclusion let me observe, that we ought to rejoice to observe the gradual suffusion of education, and the mole-hills of prejudice, and the multitude of the self-sufficient, diminishing in the same ratio. Our gardens are no longer under the direction of men who retain their profession as unaltered as the New Zealand savages do the religion of their forefathers; with as much bigotry, and as unenlightened. Our gardeners are now men of science, and friends of improvement; the present state of our horticulture affords us overwhelming testimony of the benefits gained by this revolution; and the time must come when the sons of our agriculturists have science mingled with their education, with at least as much justice as their daughters are instructed in music, dancing, and languages. When that day comes, and come it must, every proffered improvement will receive its due share of examination. Such a general diffusion of science among the cultivators of the soil, every friend of his country should endeavour to promote; for it will not be until then, that agriculture can acquire the power of becoming that which it professes to be — the art of obtaining the best crops of certain plants at the least possible expence.

"I am, Sir, &c.

"G. W. JOHNSON."

Extracts from the Pamphlet. HORTICULTURE. — "In the garden, much good may be effected by a judicious employment of common salt. I am indebted to my brother, Mr. George Johnson, for several important experiments with salt, in the kitchen garden; they were made with much care, and I can vouch for their correctness.

"The soil was sandy: and I abridge from this paper, read before the Horticultural Society of London, in November, 1821, the following detail of the result :

" Windsor Beans.

Experiment.	Produce in Bushels per acre.
1. Soil without any manure - - - -	135½
2. Soil dressed with 20 bushels of salt per acre, week before seed time - - - -	217

" Onions.

	Tendered tons. cwt. qrs. lbs.
1. Soil manured with 20 bushels of salt and 10 tons of farm-yard manure - - - -	3 12 3 12
2. Soil manured with 12 tons of farm-yard manure - - - -	2 10 2 19

" Carrots.

	Produce per acre tons. cwt. qrs. lbs.
1. Soil manured with ² 20 bushels of salt and 20 tons of manure - - - -	23 6 1 18
2. Soil, 20 tons manure only - - - -	22 18 0 26
3. Soil manured with 20 bushels of salt only - - - -	18 2 0 0
4. Soil without any manure - - - -	13 4 0 0

" Parsnips.

	tons. cwt.
1. Yard manure 20 tons, salt 20 bushels - - - -	6 15
2. Yard manure 20 tons - - - -	6 11

" Early Potatoes.

Experiment.	Produce per acre. bushels.
1. Soil without any manure - - - -	308
2. Soil manured with 20 bushels of salt per acre - - - -	584

"CONCLUSION. — From the statements which I have now been enabled, through the kindness of my friends, to lay before the farmer, he must agree that the use of salt in agriculture, is of the highest importance: he must acknowledge this, unless, indeed, he believes that all those who have tried salt as a manure, were alike deceived.

"That salt is alike beneficial to all kinds of land, and at all times, is an assertion too absurd to need refutation, for such an universal property belongs to no other manure: even chalk or lime will not suit all soils. Stable manure may be employed without benefit.

"When chalk is applied to some soils, years must elapse before its good effects are visible to the farmer. 'And yet,' said the late eloquent Lord Erskine, 'chalk, which has caused to start into life the most inert soils, is just nothing as a manure, compared with salt.'

"Now, let me ask, what would have been the fate of chalk as a manure, had its early advocates decided upon its merits, without first employing that patient spirit of investigation, so especially necessary in all agricultural pursuits?

"Would chalk, or gypsum, or lime, or bone-dust, ever have been generally employed as a manure, had their advocates been infected with a spirit of impatience, and proud contempt of the experiments and rules of those who went before them? Chalk and gypsum had their opponents; they, too, had to encounter ignorance in all shapes; but they triumphed at last, and so will the advocates of salt."

FRANCE.

Pontier, P. H., senior, Inspector of Woods and Waters: *Mémoire sur la Connaissance des Terres en Agriculture.* Paris. 8vo. 1fr. 50c.

The first part of a more extensive work, which it was the intention of the author to extend to every department of Agriculture, but his death, last autumn, limits it to the present tract, which may be considered as a practical view of the present state of vegetable physiology.

Puvion, M. A.: Essai sur la Marne. Bourg. 8vo. 3fr.

Marl is here proved to be of no use applied to calcareous soils, but more or less useful to soils of every other description. There are sandy marls, and clayey marls, and the soils to which they are respectively applicable are obvious enough. Marl acts as an improvement of the constituent parts of a soil; not like dung, which is positive nutriment, and applicable to every description of soil alike.

Annuaire de la Société Royale et Centrale d'Agriculture. Paris. 12mo.

We record this title, for the sake of noticing the very complete organization of this Society, which was instituted in 1761, was suppressed in the troublous times of 1793, revived in 1798, and is now in a very flourishing state. After a list of the Society, is given a table of their correspondents, of which there are some in every department of France, and fifty distributed over every part of the world. Then follows a list of eighty-two provincial societies, and fifteen foreign societies, with which they are in regular correspondence; and the titles of nineteen French agricultural periodicals, purchased by or presented to the Society. If agriculture is not in a prosperous state in France, it is not for want of societies or books; but there is a chasm between these societies and the people, which must be filled up by the education of the latter, before the former can be of much use. All societies, however, are useful and agreeable to those who associate; man delights in giving utterance to his ideas on subjects to which he is much attached; some who cannot write can speak, and those who will not take the trouble to do either, can show something worth speaking about. Another grand support of a society, is the idea of getting something considerable for little or nothing — of reaping the honours of science and patriotism, where we have not sown the seeds. Some men are content to shine with a borrowed light, and those who would never have been heard of standing alone, become of consequence by being connected with others; individuals who have no power singly, become formidable *en masse*; and a society with its leading spirit, (without which it is nothing), may in some respects be compared to an army and its general — it commands the respect due to power. A great proportion of the public in every country feel it necessary to have something to look up to — some peg to hang their *faith* on, by which they may be *saved* from the trouble of forming an opinion of their own. As this class should be gratified as well as every other, it would be a pity not to have plenty of societies — in France and England there should be plenty of every thing.

Soulange-Bodin, M. le Chevalier, P. of the Linn. Soc. of Paris, M. of the R. and Central Agricultural Society, F.H.S. &c.: Discours sur l'Importance de l'Horticulture, et sur les Avantages de son Union avec les Sciences Physiques. Paris. Pamph. 8vo. pp. 20.

An eloquent oration by our excellent correspondent and enthusiastic horticulturist and patriot. It is quite heroic, and what an Englishman would call perfectly French, for which reason we like it the better. A man never displays himself with so much effect, as when he appears to be what he really is. That is partial criticism, which would condemn a Frenchman because he is not like an Englishman; every man ought to be compared with himself and the circumstances in which he is placed. The object of this discourse is to excite a taste for horticulture in France, for which pur-

pose a rapid glance is taken of the progress of the art in ancient and modern times ; of the efforts now making in different countries ; of the necessity and advantages of uniting science with routine ; and finally, of the author's entire devotion to the promotion of horticulture in his garden at Fromont. We have reason to believe he is about to establish there a most complete French, German, and English garden library, and as every description of nursery propagation and culture is carried on in the Fromont Garden, it will be an excellent school for young English gardeners. It will also be of more than common interest to foreigners visiting Paris. Every person who has been at Fromont, speaks of the liberality and high spirit of the proprietor, and the magnificence of his establishment.

GERMANY.

Metzger, J., Gardener to the University of Heidelberg :

1. *Europaeische Cerealien, &c.* The Cereal Grasses of Europe, considered with reference to Botany and Agriculture. Heidelberg. Fol. pp. 74. 20 lithog. pls.

The species and varieties described are :

Wheat. *Triticum vulgare*, 18 varieties : *turgidum*, 10 var. ; *durum*, 11 var. ; *polonicum*, 5 var. ; *spelta*, 7 var. ; *amyleum*, 11 var. ; *monococcum*.

Rye. *Secale cereale*, 4 var.

Barley. *Hordeum hexastichon*, 2 var. ; *vulgare*, 5 var. ; *Zeocriton* ; *distichon*, 4 var.

Oats. *Avena sativa*, 2 var. ; *orientalis*, 3 var. ; *chinensis* ; *nuda* ; *fátua* ; *brevis*.

Rice. *Oryza sativa*, 2 var. *Canary Corn*, *Phalaris canariensis*. *Great Millet*, *Sorghum vulgare*.

Common Millet. *Panicum miliaceum*, 5 var. ; *italicum*, 5 var.

Maize. *Zea Mays*, 11 var.

Three species of Beech Wheat, (*Polygonum fagopyrum*, *tartaricum*, and *emarginatum*.) are added ; though not with botanical accuracy, not belonging to Graminæ ; the leguminous grains are omitted.

M. Dureau de la Malle has shown it to be highly probable, that the native country of the Cereales, and especially wheat and barley, is the Valley of the Jordan, the chain of Libanus, or that part of Palestine and Syria which borders upon Arabia. (*Ed. New Phil. Jour. March 1827.*)

This work is favourably spoken of in the *Isis*, one of the best German Reviews. Professor La Casca is, we believe, acquainted with a greater number of varieties of wheat than are above enumerated.

2. *Der Rheinische Weinbau, &c.* The Culture of the Vine, as practised in the Countries of the Rhine, a Theoretical and Practical Treatise. Heidelberg. 8vo. 8 lithog. pls.

Bechstein, Dr. J. M. : *Forstbotanik, &c.* Natural History of the Native Timber Trees of Germany, and of some Exotics used in Forest planting. Gotha. 8vo. pp. 948. 9 pls.

There are similar works by Reum of Dresden, and Pernitzsch of Leipsic, but that of Bechstein is reckoned the most complete.

Behlen, S. : *Forst und Jagdthiergeschichte, &c.* A Natural History, of the Animals which live in the German Forests, including those considered as Game, and Beasts of Chase. Leipsic. 8vo. 2 rthlr. 16 gr.

Anon : *Vollständige Anweisung, Aurikeln, Balsaminen, &c.* Complete Directions for the Culture of Auriculas, Balsams, Pinks, and other Florists' Flowers. Ulm. 8vo. 48 kreutz.

ITALY.

Moretti, Dr. G., Editor, Professor of Rural Economy in the University of Pavia: Biblioteca Agraria; Agricultural Library, or a Collection of Select Instructions in Rural Economy. Milan. 16mo. Vol. I.

A number of writers are employed in this work, which, from the contents of this first volume, promises to be one of a very extensive nature. (*Bul. U. Nov.* p. 335.)

Sartorelli, G. B.: Osservazioni sopra i mezzi di conservare i Boschi mediante la regolarità dei Tagli, &c. On the Preservation of Coppice Woods, by Means of regulating the Periods of felling. Milan. 8vo. pp. 74.

HOLLAND AND THE NETHERLANDS.

Lichtervelde, I. F. de, Member of the Royal Society of Agriculture and Botany of the City of Ghent: La Bêche, ou la Mine d'Or de la Flandre Orientale. Brussels. 8vo. 1 fr. 60 c.

A treatise on agriculture, "short, clear, and at a moderate price." (*Rev. Bib. des Pays Bas*, Sept. 1826.)

Calés, M. V. M., M.D. at Liège: Instructions sur le Parcage des Moutons; ou, Moyen d'engraisser les Campagnes en faisant coucher les Moutons dans les Champs. Liège. Pamph. 8vo.

Folding of sheep on arable lands, a practice becoming obsolete in Britain, is strongly recommended in Flanders, not only on account of the manure produced, but as conducive to the health of the sheep. Few British farmers will be converts to this doctrine.

Geel, M. Van: Sertum Botanicum, Choice Plants, &c. Brussels. In Parts, containing 7 Plants each.

Parts 1. and 2. have appeared, but none of the species yet figured are considered rare in England.

DENMARK.

Lindegaard, P., C. M. H. S., Gardener to the King at the Palace of Rosenborg: Om Vinstokkens Dyrkning saavel i Drivkasser som i fri luft i Danmark. Culture of the Vine in Denmark, both in Forcing-houses, and in the Open Air. Copenhagen. 8vo. 6 marks.

AMERICA.

Lathrop, E. L., Esq.: the Farmer's Library, a Series of Essays and Papers for the Promotion of the Study of Agriculture. Windsor, U. S. 12mo. 300 pp.

Memoirs of the Pennsylvania Agricultural Society, with Selections from the most approved Authors, adapted to the Use of the Practical Farmers of the United States, for 1824. Philadelphia, 8vo. 5 pls. and wood-cuts.

A selection of articles, original and borrowed, on the various departments of farming, by John Hare Powel, Esq. Corresponding Secretary. The work, as far as we have looked into it, seems judiciously executed, and likely to be highly useful in America. It is dedicated to John S. Skinner, Esq., the editor of the American Farmer, as a mark of the high sense which the Pennsylvania Society have of his indefatigable zeal, and singular ability, as editor of the best agricultural newspaper "either in Europe or America."

We have looked into the "American Farmer" in the library of the London H. S. (see *G. M.* vol. I. p. 78.) and acknowledge the justness of this very high compliment. Nothing is more gratifying than to hear of the progress of improvement in a rising country like America, where the govern-

ment and the people are alike open to every amelioration — open to receive, and free to enjoy. In Europe it is difficult to set any thing up without first knocking something down; in America there is nothing to knock down but trees, and hence the fruits of a new idea will be reaped, from one end of the United States to the other, before the seeds can be sown in a province of Old Spain, or one of the beautiful little kingdoms of Italy.

Prince, William, C. M. H. S., Member of various Societies in Europe and America, and Proprietor of the Linnean Botanic Garden, Flushing, Long-Island, near New York: *Catalogue of Fruit and Ornamental Trees, Flowering Shrubs, Plants and Roots, American Indigenous Trees, &c.* N. Y. 12mo. pp. 60.

We have already, (p. 90.), given a short account of the collection, the names and prices of which are here to be found in detail. The best European nurseryman's catalogue which we have ever seen, is that of Audibert, Marchand grainetier et pépiniériste, à Tonelle, près Tarascon, in the south of France, 1817. 4to. and 8vo. pp. 46. There is no good British nursery catalogue. One by Page of Southampton is on an excellent plan as far as respects trees, shrubs, and house-plants; but it contains so many species not to be found in any nursery, and is so meagre in its details of fruit trees and culinary vegetables, that as a catalogue to order plants from, it is of little or no use. A proper nursery catalogue is a desideratum; but it would not be proper to attempt it till after the H. S. have settled the names of hardy fruits. It is but justice to Mr. Prince, to state, that his production seems perfectly well calculated for the purpose for which it is intended. Some pains have been taken to give the French and German, as well as the English and Linnean names of various articles, which is highly commendable.

Thorburn, G. and Son, Seedsman and Florists, New York: *Catalogue of Kitchen Garden, Herb, Flower, Tree, and Grass Seeds, Bulbous Flower Roots, Gardening Agricultural and Botanical Books, Garden Tools, &c.* With an Appendix, containing a short Treatise on the Cultivation of Bulbous Flower-roots, together with a variety of useful Agricultural and Horticultural Information, New York. 1827. 12mo. pp. 101.

An "advertisement," states that this "seed store" was opened in 1804. "with a stock of only 15 dollars, including the whole assortment of seeds." After various struggles, and having "stood the attacks of several powerful opponents, the last, Mr. Cobbett, of political memory," it is now "the most extensive establishment of the kind in America."

The Catalogue of books enumerates about 60 works, chiefly British; it might be advantageously increased, and there ought certainly to be included the *Bon Jardinier*, *L'Horticulteur Français*, the *Verständigen Gärtners*, and a few others of France and Germany. Can and will Messrs. Thorburn set apart a reading-room for the perusal of their books at a moderate rate? Or will they, Mr. Prince, and the N. Y. H. S. establish a New York Agricultural Library, such as we have suggested, (p. 248.) for London and Edinburgh? We have written to Mr. Prince on the subject, and we wait his answer; but we have no doubt of the result. Mr. Prince and Mr. Soulangé Bodin are much more likely to exceed than fall short of our expectations.

ART. IV. *Literary Notice.*

Some Account of the Science of Botany; being the Substance of an Introductory Lecture delivered in the Theatre of the Royal Institution of Great Britain, by John Frost, F.A.S. and L.S., of Emmanuel College, Cambridge, &c. Nearly ready.

PART III.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Foreign Notices.*

FRANCE.

Equivocal Production of Plants. "It is undoubtedly a very remarkable phenomenon, that the earth, when dug to the depth of eight or ten feet or more, produces many sorts of plants, provided it is advantageously exposed to the sun; but what is more extraordinary, is, that this new vegetation frequently affords plants of kinds which have never been remarked in the country. It is natural to ask, whence came these plants? Can it be admitted that the seeds of those new plants were contained in the several kinds of earth? But could all those seeds, which had been perhaps above three thousand years under ground, without having ever been exposed to the action of the sun, have preserved the power of generating? If we strew ashes on high and arid heaths, we shall see some time afterwards clover and vetches growing there, though these two plants had never before been seen on those places. Shall we believe that the seeds of the clover and vetches were in the ground, and only waited for a stimulus to germinate? But how did the seeds come there? We know that high and arid heaths never produce clover: it cannot therefore be considered as proceeding from a plant which formerly grew there. But even did we admit the possibility that these kinds of earth may contain clover seed, this opinion cannot be maintained in some parts of East Friesland, where wild clover is made to grow by strewing pearl-ashes on peat marshes." — (*Bull. Univ.*)

Substitute for Mulberry Leaves. Dr. Sterler of Bavaria has found that the leaves of *Acer tartaricum*, a hardy tree, common in the nurseries, may not only be substituted for, but are even preferred, by silk-worms to those of the mulberry; and M. Mat. Bonafous of Tourin, after a great many experiments, ascertained that the utmost which can be effected by substitutes is the sustenance of the worms for a few days. The leaf of the bramble, (*ronce*, Fr., *rúbus*, Lin.) maintained them till the second change, but did not enable them to produce their cocoons. The dandelion sustained them till the fourth change, when the leaves of the mulberry were substituted, without which they would not have been able to produce their silk. The leaves of *Myágrum sativum*, an annual plant, cultivated in the north of Italy for its seeds to be crushed for oil, sustained the worms sixteen days, after which many of them perished, but a number of them revived on being supplied with mulberry leaves. On analysing the leaves of the mulberry, he finds they contain a sweet substance, which serves as nourishment, and a resinous matter, which he considers as serving for the formation of silk; and he suggests to chemists the composition of a vegetable material, combining these two properties, to be used as a substitute for feeding silk-worms, in the same way as linseed-cake and rape-cake are used for feeding cattle and sheep. (*Bul. Univ.*) It may be of some value to those who are engaged in the

culture of the silk-worm in this country to know, that the leaves of the bramble, and by analogy those of the raspberry, and probably the whole of the Rubiáceæ, may be made use of for that purpose. The bramble abounds in many hedges, and in most woods on a dry bottom ; it is early in leaf, and continues growing till interrupted by frost.

GERMANY.

Trees for planting by Public Roads, and for Hedges.—M. Hempel, in the Memoirs of the Pomological Society of Altenbourg (vol. I.), recommends the lime, the horse-chesnut, the oak, the beech, the birch, the common acácia, and the different species of pines and firs. These he would plant in single rows where the soil is good, and in double rows where it is indifferent, or the situation bleak. But he greatly prefers planting fruit-trees, and would form all public roads into avenues of sweet chesnuts, walnuts, geans, cherries, pears, apples, &c., or a mixture of these, according to the soil, climate, and exposure. Where it is practicable he would plant a row of apples and pears next the road, and another row of chesnuts and walnuts four yards distant from these ; thus forming a sort of summer avenue on each side of the main road, to protect the traveller from the sun and the rain. In low sheltered situations, where the direction of the road was east and west, he would plant walnuts, cherries, and pears on the north side, and low trees, such as apples and mulberries, the latter to be pollarded for the silk-worm, on the south side, as not impeding the sun's rays from drying the roads after rain. This enthusiastic Pomologist would even turn the field hedges into sources of fruit ; where hawthorn hedges already exist, he would cut them down and graft their roots *entre-deux terres*, (a few inches under ground) with pears and services ; on the sloe he would graft plums of different sorts ; crab-tree hedges he would turn into hedges of good sorts of apples ; and where hedges were to be planted, *ab origine*, he would oblige, under a severe penalty, all proprietors and occupiers of land to use the commoner sorts of plums. But in certain situations he would, however, admit of the elder, filbert, barbery and other fruit-bearing plants, provided circumstances were unsuitable for plums and pears. As hedges for sheltering gardens, he will allow of nothing but espaliers of fruit trees or fruit shrubs, or beds, or double rows of raspberries.

Recovering exhausted Exotics. “ I observed in the Botanic Garden here a number of hot-house plants standing in the open air. Enquiring of my guide whether the climate of Berlin, was so much milder than that of London, that stove plants could be summered in the open ground, as green-house plants are in England, I was informed that it was Mr. Otto's practice to treat many hot-house plants in this way, which had the effect of causing them to grow much more vigorously when returned to the stove, and frequently to produce blossoms more readily than by any other mode.”—(J. B.—*Berlin*, August, 1826.)

SWITZERLAND.

Establishment of M. Fellenberg at Hofwyl. By John Murray, Esq. F.A.S., F.L.S., F.H.S., F.G.S., &c. &c.—“ Sir,— You have in a late number of the Gardener's Magazine, (p. 77.) among your notices of foreign publications, adverted to the ‘ Annales Agricoles de Roville,’ as containing an account of the very interesting establishment of M. Fellenberg at Hofwyl. As I visited these magnificent arrangements on the 26th August, 1825, perhaps a succinct notice may not be uninteresting. I am unwilling, however, to trespass on your valuable pages further than to give a very summary account of what I personally witnessed ; especially as there are numerous publications filled with details of these peaceful and interesting scenes.

"The agricultural implements, which are entirely made on the spot, are numerous, varied, and complete, including all the ingenuity of the most recent invention. There is a fine dairy, though none but ordinary cheese is made. The milk is preserved in shallow trays of wood, in subterranean cellars, and the floors frequently sprinkled with water, to keep them cool. There are fifty milch cows, which are regularly carried down and dressed like horses, fourteen horses, and fourteen oxen for labour, which are particularly large, of the Fribourg breed. Liquid manure is duly appreciated, and holds its proper place in the economy of agriculture, which is not merely theoretic, but practical, and that, too, on a magnificent scale.

"On our visit we found that the greater part of the pupils had set out on their annual pedestrian excursion, *via* Neufchatel, under the care of one of the classic tutors. We were informed that there were then ninety-nine *élèves*. Of these fifteen were English, ten Scotch, including two sons of the eccentric Mr. Owen, who had twice visited Hofwyl, two Russians, one Greek, several Danes, Swedes, and Germans; the rest French and Swiss. There were, *of course*, no *Spaniards*. Twenty-one masters teach the languages, belles lettres, arithmetic, natural philosophy, chemistry, botany, agriculture, &c. There are five professors for the various accomplishments, as music, drawing, &c. In the saloon for music we noticed two kettle-drums, a grand piano-forte, &c.; and on a large black board were chalked lines and notes, for the use of beginners. They have a concert every month. The various compartments for instruction are arranged with judgment and method; in fact, nothing can be well conceived more complete than the *toute ensemble* of this very extraordinary establishment. There is a chapel that serves at once for Protestant and Catholic worship: for the former the altar and imagery of Catholicism are most judiciously concealed from view, being shut up in a convenient case.

"The beds where the pupils repose are elegantly neat, and all subordinated to health and comfort: each insulated compartment has its corresponding closet. In the *salle à manger*, or dining room, is a closet which descends, by means of machinery, into the kitchen beneath, and is wound up again loaded with its covers. Even in the kitchen for the working people we noticed a Papin's digester. Proper houses and rooms are appropriated for tailors, shoemakers, &c.; and we found the carpenters and mechanics at their respective labours. The children of the poor have gratuitous instruction. A large building is appropriated to horsemanship and various gymnastic exercises, and for the latter there are also erections of wood, &c. without. There is a plot of ground allowed to each pupil for a garden, in which he may exercise his own taste. There were new edifices being erected for various purposes, and M. Fellenberg superintended them in person. A French Count was very polite to us; even to excess.

"This is a truly peaceful scene. How different that which follows the footsteps of the warrior compared to this? '*Ubi, solitudinem faciunt, hic pacem appellant.*'

"Every thing at Hofwyl is calculated to infuse into the toils of the student the sweets of recreative enjoyment; '*labor ipse voluptas.*' I found M. Fellenberg mild and courteous, intelligent and polite. To say more of such an estimable character would be waste of praise. We left this beautiful domain with regret, to visit Count d'Erlach at Hindlebank, to whom I had an introduction, often contemplating the magnificent appearance of the establishment of Hofwyl in the distant prospect.

"I am, Sir, very respectfully, yours,

"Jan. 23. 1827.

"J. MURRAY."

POLAND.

Warsaw, March 26. 1827.—“The proprietors of land in this country are so encumbered with debts, and so proud and ignorant, as far as respects agriculture, that it will probably be a long time before any progress in that science will take place. They generally let their estates from one to three years, but sometimes keep them in their own hands. Persons renting them, frequently pay one, sometimes three years in advance, by which means they make considerable sums of money; but, of course, every idea of improving the land is out of the question. As an example, there is close to the gates of Warsaw, a fine estate, containing nearly 3000 acres, let to a person at 17,000 florins (a Polish florin is worth about 6*d.*), per annum: but the occupier never thinks of driving dung, although any quantity of it may be procured in Warsaw for the trouble of taking it away; in fact, the proprietors of houses in Warsaw are generally obliged to pay some one to take away the dung, which is carted out of town, and laid down on the waste ground near the Vistula. At the new year, wheat was selling in the market at Warsaw, at from 15 to 20 fl. per korsee (5½ bushels); Rye, at 13 to 14 fl.; Barley, 12 to 15 fl.; Oats, 9 to 10 fl.; a load of hay drawn by one horse, about as much as a donkey in England would draw, 12 to 18 fl.; a two-horse load, 20 to 27 fl.; a load of straw, consisting of 30 bundles, each about the size of a sheaf of corn, 5 to 7 fl.; Potatoes per korsee, 6 fl. Since January last, the prices are rather lower than the above.

Vegetables are at present very scarce, which is the case every spring. Asparagus is sold at 24 fl. per shock of 60 sprouts; for about 20 radishes you must pay 1 fl.; savoys preserved in the cellar all winter, 8 groschens a-head (about 1½*d.*); a lettuce about the size for transplanting, a small handful, 10 gr. or 2*d.*; spinage, a small handful, 2*d.*; turnips not to be purchased.

Were a good gardener to settle here, I think he might do well, provided he had some little capital; glass, wood, and almost every thing wanted by him, are very cheap.”—(*J. L.*)

HOLLAND AND THE NETHERLANDS.

The Botanical and Agricultural Society of Louvain opened its exhibition room on the 7th of February. The prize for *la belle culture* was given for a *Cyclamen persicum* (*G. Mag.* vol. i. p. 386. fig. 79.) of an extraordinary size, and having more than one hundred flowers in bloom. A *Camellia japonica pæoniflora*, *Amaryllis Johnsonii*, and *Azalia indica* received secondary premiums, and *la mention honorable* was made by the council of several plants.—(*Jour de la Belgique.*)

Caterpillars.—An edict is published annually by the government of the Netherlands, ordering all the proprietors of lands and farmers to clear off these from the trees twice a year, viz. before the 25th of March, and before the 25th of April, under pain of the infliction of a certain penalty, determined by law.—(*Brussels, Feb.*)

The Brussels' Society of Flora held their meeting on the 18th of February, when the Queen and some of the Royal Family were present. Four plants are mentioned as of great merit, viz. a Provins and Pomponne rose, and *Cactus flagelliformis* and *salicornioides*. (L.) A tree pæony, and a number of other plants were exhibited, and mentioned in a manner honourable to those who sent them.—(*Jour. de la Belgique, Feb. 18.*)

The Use of Arsenic as a Poison for Vermin has led to such abuses in Holland, that the Agricultural Society of Amsterdam have offered their silver medal for the best means of destroying vermin without the use of that poison. The same Society has, for the last fifty years, proposed a prize for

the best memoir on the improvement of agriculture in Holland, without having had an opportunity of bestowing it; and the same subject is pro-rogued to the end of the year 1827. The Dutch nation, Harte observes, have always been more noted as practitioners than writers.

NORTH AMERICA.

The Society for the Encouragement of Horticulture, Agriculture, &c. in the Island of Jamaica, invite cultivators of vegetables, fruits, and flowers, to send specimens of any of them for examination on Monday the 13th November next, for which prizes will be awarded according to their respective merits; and, in addition to the above, premiums will be given for the best specimens of honey and wax, bleached and unbleached, according to their respective qualities. The specimens to remain the property of the person by whom they are sent; but if by a slave, to be accompanied by a certificate from his owner or overseer, of their having been grown in the ground of the individual producing them. The specimens to be sent to the circulating library by nine o'clock in the morning. (*Newsp.*) — "Perhaps you will insert the above, to elicit farther information on the subject. In Brian Edwards's History of Jamaica you will find some account of the botanic garden in Jamaica, which was at one time in a very flourishing state." (T. R. Liverpool.) — An account of this botanic garden, which no longer exists as such, will be found in *Encyc. of Gard.* § 499.

"*The Berberis aquifolium* has flowered for six years past in the open garden here. In my next I shall send you some remarks on it, and also on

"*Maclura aurantiaca*, the female of which has been sent to Europe in abundance, but the male plant is not only not in Europe, but not in any botanic establishment in this country but my own." — (*W. Prince, Lin. Bot. Gard. N. York, March 5.*)

Farming in Susquehanna "is very unlike what it is in England. Timber there is very valuable; here it is an incumbrance, and we destroy it as expeditiously as possible. One of our labourers will cut it down, chop it so small as to be manageable, burn it, and clear off an acre in two weeks, or less. The first crop repays all his labour in getting it. This is all we aim at; and after the timber has been burnt on the ground, we sow our grain and grass seed without ploughing, and harrow them in. This you will think is very slovenly farming. My estate consists of a square of 50,000 acres of excellent land, but I can cultivate but a small part of it myself. I am very anxious to find a person from Europe who would purchase a part of it, or become a partner with me in a part or the whole of the concern, so as to farm on a large scale. I am a native of this state, and have resided sixteen years here. But I am fond of social life, and can imagine the great advantage of the co-operation of several gentlemen in almost every pursuit, and more especially in such situations as mine, where the seclusion of a pastoral life would be pleasantly and profitably relieved by society, and the company of persons of similar feelings with myself. My exertions relax, and I become indolent from want of excitement. When I first came, all this part of the state was a wilderness; it is now formed into a country containing about 500,000 acres of land, with a population of from 12,000 to 14,000 souls, of whom about one-fourth are on my estate. I have sold several lots of 200 acres each. Montrose is our capital; it is 140 m. from N. York, and 160 m. from Philadelphia. A stage arrives from the latter city thrice a week. It may be mentioned, as an instance of the rapid intercourse between your country and this, that I read your Gardener's Magazine in thirty days from the date of its publication." — (*R. H. Rose, Silver Lake, Susq. Pennsylv. Nov. 26th, 1826.*)

ART. II. — *Domestic Notices.*

ENGLAND.

American Aloe in the open Garden. — About eight years back I pulled down one of my hot-houses, in which stood a large American aloe (*Agave Americana*) known to be sixty-eight years of age. It was in a box about two feet square, and the plant was so large that I determined not to put it into the new house then building: it was in consequence placed alongside the south wall in a corner (not expecting it to live), where it has been ever since, never having been watered in summer, nor matted nor attended to in winter, and it is now as vigorous and as healthy (if not more so) than before. The box was not buried in the ground, and is now falling to pieces. The garden is about 100 yards from the sea. — (*Lloyd H. Banford Hesketh, Gwrych Castle, Abergeley, Denbighshire.*)

We shall be happy to know the dimensions of this plant, and also whether any, and what other exotics have been tried in the open air in this seemingly most favourable climate and situation. Oranges and lemons would probably succeed as well as they do in some parts of Devonshire; the Loquat (p. 234.) would have a magnificent effect; and there can be little doubt many of the Australasian plants (p. 336.) would succeed, and many also from China and the Cape. Of all horticultural amusements, we know few so interesting as that of attempting to acclimate, or more correctly, trying the degree of hardiness, of fine foreign plants. — *Cond.*

Subterraneous Irrigation of a Vine-Border. — Mr. Wetton, of Style-House, near Kew Bridge, a zealous amateur of horticulture, is now erecting a pine and grape-house, with the border of which he has taken more than usual pains. This border is partly without the house in front, and extends also within it under the pine-pit to the back wall. The tan of this pit will rest on flag-stones, supported by brick piers, by which means a stratum of air will intervene between the hot tan and the soil containing the roots of the grapes. This bed of soil is about three feet deep, and, in order to have the full command of watering it, either with pure water or liquid manure, a cast-iron pipe, four inches in diameter, is conducted along the bed in the middle of the mass of earth. This pipe is perforated with a row of holes on each side; and into these holes are inserted iron tubes of half an inch in diameter, and of different lengths, from one foot to four feet, so as that their orifices may deliver the water regularly through the whole mass of earth. Both ends of the main pipe terminate in funnels outside of the house, and four or five feet above the surface; by which means, when water is supplied by them, there will be a pressure equal to the height of the column between the horizontal pipe and the summit of the funnel; which pressure will clear out the small delivery tubes, should they be at any time partially choked up by worms or sediment.

However ingenious this plan may be, we consider it, as we told its worthy inventor, as possessing no advantages whatever; for, by leaving vacuities from the stratum of air over the bed of soil into the paths of the house, or rather, by having the pit standing, like a large box, upon brick piers, which may be effected by commencing the brick walls on the pavement constituting the bottom of the pit, water could have been poured in every where at pleasure. As to its not sinking equally on a surface liable to become dry, hard, and dusty, that evil is readily obviated, by covering with six inches of clean round gravel. Mr. Wetton intends planting vines against the back wall of this house, and the bed under the pit will certainly

be an excellent border for them; but, unfortunately, he has omitted the proper contrivances in the back wall for withdrawing and wintering them; a practice highly conducive, and by most gardeners considered essential, to success. — (*April*, 1826.)

The Garden of the Zoological Society in the Regent's Park, with its plantations, promenades, aviaries, and sheds for some of the more interesting animals, ponds for fish and wild fowl, &c., it is expected will be opened for public inspection early in the ensuing summer. — (*Newsp.*) We hope it will be rendered as accessible to the public as the zoological department of the Jardin des Plantes at Paris, or at least as much so as the difference between a national and a copartnership establishment will admit.

SCOTLAND.

Caledonian Horticultural Society, March 10. — The following Prizes were awarded :

For the best twenty Spring Flowers, either species or distinct varieties giving preference to the most ornamental produced in the open border, exclusive of garden Anemones, to Mr. Alexander Forrester, gardener to David Falconer, Esq., of Carlowrie.

For the best twelve single garden Anemones, from the open border, to Mr. Robert Lees, gardener to Miss Scott, Mount Lodge, Portobello.

For the best six stalks of forced Rhubarb, to Mr. James Stewart, gardener to Sir John Hope of Pinkie, Bart.

For the best six Hyacinths, in flower-pots or water-glasses, red, blue, and white, two of each, to Mr. William Milne, gardener at Drum, to Gilbert Innes, Esq., of Stow.

Several very fine parcels of Hyacinths were exhibited, and the Anemones and other border flowers sent in competition were truly astonishing, when the extreme inclemency of the season is considered.

The model of a cast-iron plate for the steaming of hot-houses, invented by Mr. Macnaughton at Edmonstone, had been laid before the council on the 4th of January last, together with an account of its practical utility, and the society's silver medal was awarded for this improvement. At the same meeting of the council, the plan by Mr. Dick at Ballendean, of an economical arrangement of forest trees, had been exhibited and explained; and a medal had also been voted to Mr. Dick for this improved practice. (We should be particularly obliged to Mr. Dick for an idea of his improvement, unless it be already in the course of publication.)

It was further reported from the council, that at their meeting on the 1st February last, they had awarded the London Society's honorary medal, placed at their disposal, to Mr. William Hamilton of Don Nursery, Brechin, for a communication on painting fruit-tree walls black, inclining them to the horizon, &c.; such communication being founded on experiment and practice. At the same meeting, the council agreed that the Society's silver medal ought to be awarded to Mr. Alexander Stewart, gardener at Valleyfield, for his economical vegetable frame (to be described and figured in our next No.) for preserving the more delicate culinary plants in a growing state during the winter, such frame having now been approved after eight years' experience.

Coal Smoke and Gas. The council of the C. H. Society have at present to contend with a company who are endeavouring to establish a coal-gas manufactory in the precincts of the Warriston Garden. We hope they will be successful; for whatever difference of opinion there may be as to the effect of an atmosphere containing a considerable portion of sulphurated hydrogen, in mixture with common air, there can be but one opinion as to the effects of the great addition of coal smoke which will be produced by

this manufactory. The smoke of London is every year forcing the commercial gardeners to recede farther from its influence, and we understand evidence has been given before a committee of the House of Commons, to show that plants cannot be kept in the windows or small gardens near the gas manufactory at Westminster, as they used to be before that nuisance was established. Mr. Anderson of the Chelsea Garden can speak to these points. But, supposing it were doubtful to what extent smoke and gas are injurious to plants, surely the prosperity of a national establishment like the Caledonian H. S.'s Garden should not be risked by admitting near it such works, when they might be erected any where else. We regret we did not know before the publication of our last No. that such a project was in agitation, because in that case we should have requested information on the subject of the effect of coal gas on plants from all our readers who live near gas-works. Though it may now be too late for this particular case, we request such of our readers as are so situated, to state to us the comparative appearance of vegetation in the immediate vicinity of such establishments, before and after their erection. We should also be glad if some of our chemical readers would make a few experiments. A cask of portable gas might be placed in a small airtight green-house or hot-bed frame, and portions of it from time to time allowed to mix with the included air. Plants of domestic culture, such as the common culinary vegetables, and fruit trees; also grasses, succulents, wild plants, and exotics, should be subjected to this atmosphere for two or three months.

Aberdeen Horticultural Society.—A List of the Prizes for 1827 has been sent us; and in addition to the usual flowers and fruits, we observed three which are peculiarly appropriate, viz. :

To the person who produces the best six sorts of one year Seedling Forest trees, and 12 plants of each sort; the best six sorts of two year seedling Forest trees, and 12 plants of each sort; any esteemed Exotic Plant, or Plants brought to the naturalization of the climate of Aberdeenshire, the Society's silver medal.

Botanic Garden, Edinburgh, 10th March, 1827.—Rare plants which have flowered during the last three months, as communicated by Dr. Graham to Prof. Jamieson. *Banksia latifolia*, and *serrata*; *Dichorisandra thyrsoïdora*, *Euonymus scandens*, *Liparia sphærica*, *Mirbelia speciosa*, *Penæa squamosa*, and *Perdícium brasiliense*. (*Phil. Jour. Mar. 1827. p. 386.*)

The Horticulture and Botany of France and England are compared by Mr. Arnott of Edinburgh, in Professor Jamieson's Philosophical Journal for March last, and a very decided preference is given both to the gardens and gardeners of France, in a botanical point of view. "I have now examined various extensive gardens in France, and I uniformly find, that their gardeners understand more of botany than those in the same situation in England. In English and Scotch gardens there is scarcely one person who can give the botanical name of a plant; or, if they attempt it, it is ten to one a wrong one, or some barbarous jargon that they have received from some correspondent; and indeed, (the botanical gardens and principal nurseries excepted,) he who is at the head of the establishment knows least of all, being generally unable to give the name, whether English or Dutch." (p. 251.) We are none of those who delight to foster national prejudices, or flatter any class of men; on the contrary, we consider it more in the line of our duty to neutralize and humble, in order to make way for truth, and show cause for exertion; but we will venture to assert, that Mr. Arnott's views in this instance are not borne out by facts. The comparison indeed is too indefinitely made. Let Mr. Arnott compare the botanic gardens and nurseries of both countries, and decide as to them, and then take up the subject of private gardens. Things must be wonderfully advanced in France within the last seven years, if the workmen in private gardens, whether head-men or labourers, know half as much as the same classes in Britain.

But possibly they may, and if they do, we should be glad to record the history of their improvement. We invite Mr. Arnott to favour us with some ideas on the subject, and we hope he will be induced to listen to us favourably, by the consideration, that the discussion of the subject is certain of being the means of improvement, by showing every practical reader of this Magazine the necessity of doubling his diligence.

Seeds of the Feather Grass, Stipa pennata. Some interesting observations on the phenomena of the natural semination of these seeds are given by Prof. Macvicar of St. Andrews, in a late No. of Jamieson's Journal. After illustrating the general law of nature in regard to the preservation of species, that, "in proportion as the causes operating to destroy a species increase, so also do the organs and functions operating to preserve it," by noticing the slow process by which the more perfect animals and plants, as men and oaks, and worms and mosses, are increased, he gives the following detail of the peculiar structure and functions of the "feathered arrow" of the *Stipa*. "When the seed and its feather-like appearance has fallen from the parent plant, it enters the soil vertically, and in a few hours the base and sulcated part of the awn becomes twisted, and the feathered portion becomes horizontal. In consequence of which it is blown round by the autumn winds like a vane, and every turn screws it farther down into the earth; for the hollows and ridges which, when it remained upon the plain were only longitudinal sulci, have now given rise to the hollows and elevations, in a word, to the threads of a screw. Thus it is moved down, and whatever is gained is prevented from being undone by a reverse motion of the vane, in consequence of the stiff hairs upon the glume, which act as barbs.

"When it has thus been worked down into the moist soil, the situation most favourable for germinating, the attachment between the awn and seed is dissolved; for having drawn up many when they were in this condition, I have invariably procured the awn only, and never, by any chance, the seed. Such appears to be the function of the 'spiral articulated deciduous awn' of this interesting species." — (*Prof. Jam. Phil. Jour. Mar. 1827, p. 346.*)

We are happy to see this journal greatly increasing in interest, and we hope now that the rival work of Dr. Brewster has been given up, it will meet with that encouragement which it so justly merits. The case of the two Edinburgh journals may be cited as one of the few in which competition proves injurious to the interests of science; they were both admirably and perhaps equally, well conducted; but as two such journals issuing from Edinburgh, were not likely to be adequately supported by the public, both would probably have fallen to the ground had not one given in. When the public are puzzled how to make a choice between two objects, they are more likely to choose neither than both. The combination of science with popular and practical discussion, and elegant recreation, which distinguished the journals of Dr. Brewster and Prof. Jamieson, has probably induced Prof. Brande to commence a new series of his journal, on a more popular plan than heretofore. We hope the new series will meet with success, and hail, as a favourable omen, the omission on the cover of that silly affectation of importance, "Edited at the Royal Institution of Great Britain." An individual is something as an authority; but an institution, or a society, little better than a phantom.

We observe also, that Mr. Taylor has begun a new series of the "Philosophical Magazine," and combined with it the "Annals of Philosophy," and there can be no question the work is improved. Two journals having the same objects may perhaps be supported in London, though not in Edinburgh. We heartily wish all three success. In our opinion, all of them would be improved by the frequent introduction of papers on subjects of taste; discussions on different kinds of beauty, on architectural beauty, on

that kind of beauty which is called picturesque; in short, we should like to see an attempt in a popular form, to enable general readers to classify and give the proper names to different kinds of beauty and deformity; being convinced that till an individual can refer every object that comes before him to its proper place in the scale of intellectual expression, (if we may so speak,) he has little chance of arriving at truth in matters of taste. Every object considered at any time, or in any age or country, beautiful or otherwise, will be found so in reference to particular states of the mind, country, and social improvement; consequently, with reference to these states, there must be a great many different kinds and degrees of beauty. Now, to be able to class these, and assign the proper rank to each, is to have arrived at just criticism in matters of taste. Another improvement which we would suggest for a popular journal, is the devotion of a department to queries and answers. Mr. Brande's Journal professes to be adapted for the "highest classes," and if he could by such a department in his new series, lead them into that species of intercommunication, which has been so successfully done by the editor of the *Mechanic's Magazine*, he would confer a great additional interest on his work, and perhaps render it as useful among the highest classes, as the *Mechanic's Magazine* is among mechanics and general readers. — Since the above was printed, another number of Dr. Brewster's journal is advertised: all we have room to say is, that it is as deserving of encouragement as Prof. Jamieson's, and by many considered the most interesting of the two. God save them all!

The Aracácha (fig. 86.), is in excellent health in the Glasgow Botanic Garden, and was exposed to all weathers for four months during last summer. One plant of it was brought originally from Bogota, via Trinidad, several years back, and some others from Jamaica fourteen months ago. — (*S. M., Feb. 28. 1827.*)

IRELAND.

The Bostrichus piniperda. — A beetle, (fig. 87.), which in its larva state destroys the young shoots of the pine and fir tribe, is making havoc on the plantations in some parts of Ireland. The eggs are hatched under the old bark, and in the month of May, when pines and firs make their young shoots, the larva or grub inserts itself into their base, nearly at where the new growth proceed from the old wood, (fig. 88. a,) and works upwards, till it finds its way out at the extremity, b. The Scotch pine is much more obnoxious to this insect than the spruce fir, and as it attacks the leading shoots in common with the others, if the trees survive, they are seldom worth much as timber. But the trees frequently die, and as in that state they offer a very favourable nidus for the eggs of a future breed of larva, it is considered advisable to cut down and remove them. This is all that has hitherto been attempted as a mitigation or check to this spreading evil. — (*Ir. Farm. Jour. Dec. 23. 1826.*)

The Irish Yew, Furze, and Broom. — “ Sir, — Relative to the Irish yew, furze, and broom, to which you directed my attention in the *Gardener's Magazine* (p. 241.), I have to inform you that they can all be had in abundance at the nursery of Mr. John Harvey, Comber, near Belfast. In a letter I had from him, dated March the 9th, he says, ‘ I presume the upright yew, as we call it, is what Mr. Loudon means by the Irish yew. If so, I think I have more good plants of it than any other individual in the kingdom, and could send a parcel to London by the steamer any week. I have the woolly poded broom, and very woolly it is. I call it free broom, from its rapid and great growth, assuming quite the appearance of a tree. I have had it grow here from the seed in four years fifteen feet high, covering a large space, and the stems as thick as my arm.’

“ I have no doubt but Mr. Robertson of Kilkenny is well supplied with the above plants, but I have not yet had the pleasure of seeing his establishment, although it has been long pre-eminent for variety and quantity. Toole, Simpson, Grimwood, and Livingstone of Dublin, the Ballybeg Nursery, Kearns of Dundalk, and Lindsay of Belfast, are celebrated for ever-greens; but the remote part of the country to which for these eighteen months I have been confined, prevents me speaking particularly as regards their present stock.

“ The Irish yew is properly called the Florence-court yew, from its having been originally found there. Florence-court is the seat of the Earl of Enniskillen, in the county of Fermanagh. When I last called there, (about three years ago) my friend, Mr. William Young, the gardener, pointed out the mother plant in a shrubbery near the Court. The furze is named in collections *Ulex Europæus*, var. *stricta*: it is said to be peculiar to the county of Down. Mr. Harvey, the nurseryman just mentioned, pointed out to me one of its habitats adjoining Mount Stewart, the seat of the Marquis of Londonderry. — Yours truly,

“ JA. FRASER.”

ART. III. *Horticultural Society and Garden.*

Regent Street, March 6. — Read, a paper by Mr. William Stothart, one of the under-gardeners at Chiswick, on the mode of forcing rhubarb, as practised there. The seed is sown in rich soil the beginning of April. The plants are allowed sufficient room to attain a considerable size during the summer, and in autumn, when they have begun to leave off growing, they are taken up and potted in pots not much larger than what are sufficient to hold the roots, and two, three, or more, put in a pot according to its size. They are then placed in a shady situation, till they are removed to the forcing house. This is, perhaps, as easy a mode of growing and forcing rhubarb as any in practice. A great advantage of raising the plants from seed is, that the roots being more like those of carrots than the roots of plants obtained by division, several of them can be got into one pot; the buds are also stronger. Mr. Knight has shown (*Hort. Trans.* vol. iii. and *E. of G.* § 4024.) that very little earth is necessary in the pot. The provision for the leaves being already in the roots, only requires heat and water for its developement.

Exhibited. A new seedling *Camellia*, from the Comte de Vande's garden at Bayswater, the colour that of the *Waratáh*, but darker; also some other *Camellias*, and a plant of the *White Primula sinensis*. A dried specimen of the *Rose of Jericho*, from A. B. Lambert, Esq., is worthy of notice. The plant which bears this name is one of the *Cruciferae*, nearly allied to *Thlaspi*,

viz. Anastatica hierochuntica (*fig. 89. a.*), a hardy annual, a native of the Levant. It grows on the coasts of the Red Sea, in Palestine, and near Cairo, in sandy places. The stalks are ligneous, and the peculiar appearance which they present, and which has given rise to the name of rose (*fig. b.*), arises from their being blown out of the soil before they have begun to wither. When the plant is taken up green, and hung up in a dry room, it may be preserved for several years; and it is said if the root be afterwards put in water for a few hours, the buds of the flowers will swell, open, and appear as if newly taken out of the ground. (*Mart. Mill. Dict.*) The specimen exhibited was collected at Bushire, on the western shore of the Persian Gulf, lat. 28° N., by Lieut. Roe, R. N., a most active and enterprising naturalist, who has added many new species from that part of the world to the cabinet of Mr. Lambert. It is one of the largest ever seen in England.

March 20. Read, an account of varieties of the Apple which have been found to succeed in Ross-shire, latitude 57° 34' N., by Sir George Stewart Mackenzie, Bart. F.H.S.; and one upon the best mode of raising Seedling Fruit Trees, in a Letter to the Secretary, by Mr. W. Weissenborn, of Weimar. This letter is a translation, with variations, of a paper by Giovanelli, which originally appeared in a Tyrol journal, from whence it was copied into a Vienna newspaper, and sent us, from the latter source, by Mr. Rauch, jun. of Luxembourg. It is an idle speculation of a person very ignorant in vegetable physiology. Having succeeded in reversing a grafted tree, so that what was the top has become the roots, the original stock and a part of what was the scion is cut off, leaving the shoots produced by the scion as root and top. Seeds from the fruits of the tree so obtained, it is conjectured, will produce fruits the same as those of the parent, and save the trouble of grafting, &c. As well might it be said that a man may become taller by walking across a room on the crown of his head, or a better Christian by crawling to church on his hands and feet.

Distributed.—Seeds of *Tetragonia expansa*, from the garden of the Society. Rampion and White Silesia Lettuce, from Messrs. Beck and Co. Guernsey Parsnip, from Mr. Hugh Ronalds, F.H.S. Celeriac Rave, from M. Vilmorin, C.M.H.S. Cuttings of Byson-Wood Russet Apple, from John Rigden Neame, Esq. F.H.S.; and Siberian Bitter Sweet Apple, from Thomas Andrew Knight, Esq. F.R.S. &c. President.

Exhibited.—Flowers and leaves of the Hand Tree of Mexico, in spirits, by Sir C. M. Burrell, Bart. M.P., F.H.S. The centre of a decayed Cedar tree, from Charles Worthington, Esq. F.H.S. A plant in flower of an *Amarýllis*, resembling *A. acuminata*, from the Brazils; and a Ribston Pippin, from Mr. George Sinclair, F.H.S. A plant in flower of a Seedling *Caméllia*, from the Comte de Vandes, F.H.S. Plants in flower of four sorts of *Caméllias*, from Messrs. Chandler and Buckingham. Flowers of *Hóves Céli* and *Chorizéna Henschmánni*, from Sir Abraham Hume, Bart. F.H.S. Flowers of four seedling *Caméllias*, from Mr. George Press, gardener to

Edward Gray, Esq. F.H.S. Flowers of the Striped and White Camellia, from plants which had stood the winter in the open air in the Goldworth nursery at Woking, by Mr. Donald, F.H.S. It appears that the striped Camellia, which is one of the handsomest, is also one of the hardiest sorts. Mr. Donald sent us, several times in the course of last winter, blossoms of four varieties which have endured the open air with him for the last three winters, remaining in flower from November till April; and he has no doubt the Camellia will ultimately become one of our hardy evergreen shrubs, and as common as the variegated holly or Portugal laurel. From what we have seen at Wortley Hall and other places, we have little doubt this will be the case; and we would suggest that wherever there are spare plants of Camellia, and indeed of house exotics of any kind, that they should be tried among masses or groups of other shrubs, or under deciduous trees, where the soil is very dry, either naturally or by art. A southern exposure is of much less consequence than a dry soil, and a situation surrounded by bushes, or protected from perpendicular cold and north and east winds, by trees. Cold drying winds, and the alternate action of the sun's rays, and hoar frost, are the chief sources of injury to be guarded against.

The seedling Camellias of Mr. Press are described in the following letter from Mr. Burnard:—“Dear Sir,—I mentioned to you sometime ago that Mr. Press of Hornsey had raised a number of seedling Camellias from seeds saved from a plant of the semi-double red, impregnated by the single white. The five following are now in bloom:—

“1. *Gray's Invincible Camellia*. White ground, striped with pink, upwards of 3 inches in diameter, very double, the finest of all Camellias.

“2. *Rosa mundi C.* White ground, beautifully spotted and striped with crimson, in the way of a good York and Lancaster rose; a well formed double flower, 2½ inches in diameter.

“3. *Press's Single Red C.* Larger than the single white, and very brilliant.

“4. *Single striped and dotted C.* A clear white ground, with pink stripes, and dotted all over with small dots; a very large and beautiful flower.

“5. *Press's Eclipse C.* A clear white ground, with pink stripes, superior in the beauty of its form to the double white, 2½ inches in diameter.

“I understand the best judges consider these flowers as the finest that have hitherto been raised in this country. It is said the Fellows of the Horticultural Society were quite ravished with them, and I have no doubt they will be in greater request than any of the varieties now in the nurseries. I hope justice will be done to the extraordinary merit and good fortune of Mr. Press, who is really an excellent gardener, as his superb Magnolias, pines in fruit every month in the year, grapes and peaches now nearly ripe, and, indeed, all his other articles, evidently show.

“Yours truly,

“*Formosa Cottage, Holloway, April, 1817.*

“J. P. BURNARD.”

Also from the Garden of the Society.—A plant in flower of *Hæmáanthus multiflorus*, sent from Sierra Leone by Dr. Barry, and a new species, collected at Delagoa Bay, by the late Mr. John Forbes. Red and White *Prímula Sinénsis*. Rose Waratáh Camellia, brought from China by Mr. John Damper Parks. Forced asparagus, raised in open beds by side linings of dung, as practised in Denmark; an excellent plan, producing very strong shoots, uncontaminated with the rank flavour so generally communicated to asparagus, sea kale, and rhubarb, when forced by covering with rank horse-dung.

April 3.—Read, an account of a method of obtaining strawberry plants for forcing, by Mr. Alexander Diack, of Mile End, near Aberdeen; and,

upon the cultivation of twining kidney beans for forcing, by the Rev. George Swayne, C.M.H.S.

Distributed.—Seeds of Bêtrave rouge de Castelnaudary, Laitue impériale, and Oignon blanc hâtif, from M. Vilmorin, C.M.H.S. Black delicate Turnip, and Early Knob Celery, from Mr. John Booth of Hamburgh. Cuttings of Beurée d'Arenberg Pear, from Captain de Couteur, C.M.H.S.; and Bascomb Mystery Apple, from Mr. John Bridgman, F.H.S.

April 17th. Read a paper on destroying the aphides on peach trees by tobacco-water, from Sir G. S. Mackenzie. Notice was given of the Society's intention to send medals to the provincial societies, to be by them bestowed according to merit; a very proper measure, because it will extend the feeling of co-operation, fraternity, and unity of purpose, to the extremities of the three kingdoms, in a cause, which, unlike that of the Jesuits, and certain other societies, admits of no dispute as to its utility and moral innocence. We would push the idea two moves farther, and send medals for a similar purpose to our colonial societies, and exchange them with the similar establishments of other nations in every part of the world. The universal sympathy of feeling which this would produce, and the real benefits to society which would have a tendency to be the result, are delightful to contemplate. A few handsome house-plants, and some bouquets of narcissi, hyacinths, Persian tulips, remarkable for their black bottoms, garden anemones, double-blossomed whin, &c. were on the table. An Irish variety of the common garden anemone was remarked as a fine showy flower, and is well worth asking for from the garden by the unstarred fellows, and purchasing from the nurseries by the others.

Chiswick Garden.—Some of our readers have reminded us of our promised critique on this garden, and seem to hint that we may have changed our mind on the subject. But, no! Every visit we make strengthens the opinion of it which we have from time to time expressed: for instance, we were there a few days ago, admiring the extensive collection of orchideous epiphytes, Cape bulbs, pits of pine-apples, forced strawberries and figs, a pond preparing for aquatics, and the American eagle,—all very good in their way, but most improper as main objects, while there is no vinery for proving the different sorts of vines, and no wall devoted to try their comparative hardiness. Had a proper plan and system of management been adopted, the grand leading objects of general utility would have been first attended to, and hot-houses, for pine-apples, dumpy orchidæ, and other objects of luxury, botanical curiosity, or petty detail, kept subordinate. As to growing pines, and forcing strawberries and figs, in the present state of the Society's funds, we think it ridiculous.

To the plan of the garden we shall return as soon as we can find leisure. The necessary sketches to illustrate our ideas have been engraved nearly a twelvemonth, and we are not likely to throw them away. In the mean time, in case there should be a chance of our opinion doing any good, we submit the following general outline of our scheme of reformation.

1. The present plan is so bad, that it cannot be improved on, but must be totally obliterated.

2. In order to obliterate the plan with as little loss as possible, as much of the stock of plants as can be spared, including all duplicates, most of the pines, and many of the purely botanical plants, should be sold, by auction or otherwise.

3. The Arboretum should be formed as a belt, combined with hardy herbaceous plants, and arranged in the natural manner, as suggested p. 302.

4. The walk within this belt, we think, should be a perfect circle; but it may be a square, or wavy.

5. In the centre of the circle should be a walled square of two acres, in which should be included all the frames, pits, hot-houses, sheds, gardeners' lodges, and head-gardener's office.

6. The intermediate space between the square in the centre, and the circular walk, should be divided by walks radiating from the square into departments for hardy fruits, culinary vegetables, experiments, flowers, &c.

7. A broad border of showy flowers, roses, and shrubs of culture, should accompany the inner margin of the circular walk; and evergreen hedges may separate this and the radiating borders from the interior compartments.

8. The hot-houses, buildings, &c. to be erected in the square by degrees, beginning with the more important.

9. One main entrance and a lodge there, but no other buildings, excepting in the central square.

10. A system of wells, or sunk tubs, established throughout the grounds, supplied from the spring, sympathetically, if the expression be allowed; by which means the water in all of them would stand at the same level, the aquatics in the natural system would be provided for in their appropriate places, and every part of the garden might be watered by hand, at the least possible trouble and expence.

The advantages of this plan are, — a simple and grand general effect; an appearance of being complete from the first, because all the unfinished works would be within the square; less walling, and fewer walks, than by the present plan; better adaptation for, and much less expence of, general management, in consequence of concentration, &c. &c.

Such is a rough outline of the plan which we suggested in 1823, in the *E. of Gard.* 2d edit. § 7507), and which we are most decidedly of opinion it would be worth while to execute, even at the expence of obliterating the present walls and walks.

We would suggest, as an improvement in the affairs of the Society, and as affording a source of income for the garden, the publication of their Transactions in 8vo., and without coloured engravings, by which means they would be got up at a trifle, compared to what they cost at present, and sell more extensively, and the saving might be applied to the garden. As we shall elsewhere show, the present style of getting up the Society's publications is in the very worst taste; for that must certainly be the worst which is the least calculated to gain the end in view.

It is not likely, however, that any great improvement will take place in this Society which is not the result of necessity. Some reformation has already taken place in consequence of the defalcation of the under-secretary, and the want of funds; but a great and radical change must be effected before the Society and the garden can be established on a permanent footing. We shall never lose sight of the garden, which, as a work of design, we consider disgraceful to the country; and as many of the Fellows of the Society as are of our opinion will do well to agitate the subject wherever and whenever they think good will be the result. The progress of opinion is slow but sure; and that its power will ultimately lead to the remodelling of the Horticultural Society's Garden we have not a doubt.

ART. IV. *Provincial Horticultural and Florist Societies.*

*The Botanical and Horticultural Society of Newcastle-upon-Tyne held their General Meeting on the 9th of March, when the following Prizes were awarded:—*For the best dish of Dessert Pears, the silver medal, and for the best six heads of Purple Spring Broccoli, the bronze medal, to Mr. Thomas Cook, gardener at T. W. Beaumont's, Esq., Bradley-Hall; for the best dish of Dessert Apples, the silver medal, to Mr. Thomas Smith, gar-

dener at Matthew Bell's, Esq., Woolsington; and for the best dish of Brussels Sprouts, the bronze medal, to Mr. Robert Turnbull, gardener at the Rev. J. S. Ogle's, Kirkley-Hall. Some fine Hyacinths, Boquet Tendre or Waterloo, Henrietta Wilhelmina, Violet Foncé, Porcellaine Sceptre, General Blucher, and Pure d'Or, and a very fine plant of Blétia Tankerville, in full flower, were exhibited from the garden of Mrs. Clarke, of Fenham. A large and various collection of seeds of new vegetables, and cuttings of new varieties of fruit trees, having been received by the secretaries from the Horticultural Society of London, were distributed to the members present. Some Ribston Pippins were exhibited from the garden of Henry Collingwood, Esq., of Chirton, which had been preserved by being buried in the earth: they were in fine condition, and uncommonly firm. Several packages of fruits and vegetables, intended to have been sent for exhibition, did not arrive in time, from the roads being blown up by the late storm. The meeting was numerously and respectably attended. (*Newcastle Cour.*)

The Tamworth Florists' Society, now establishing, chiefly through the exertions of Mr. Buck, F.H.S., of Elford, near Lichfield, intend holding meetings twice a year: the first in spring, for auriculas and polyanthuses; and the second in autumn, for carnations, piccotees, melons, and gooseberries. Some judicious observations on the advantages which are likely to result from this Society to gentlemen, gardeners, and cottagers, have been sent us by Mr. B., from which we can only spare room at present for the following extract:—

“The premiums will give an impulse to the surrounding cultivators, by exciting an amicable competition; improvements in cottage and farmers' gardens will rapidly advance, and social and friendly intercourse for information and instruction be more effectually promoted. We contemplate numerous advantages to arise from such a society, and hope the inhabitants of the neighbourhood will give encouragement to it, as having for its object what is truly useful and ornamental; what will combine rational gratification with innocent recreation; alleviate the hours of care and sorrow, by agreeable occupation with objects of never-ending interest; lighten the weight, and shorten the period, allotted for toilsome labour; mitigate affliction, and not only renovate and improve our health, but preserve it in that state. Many of our gardens, instead of being unprofitable and unsightly, will become neat, pleasing, and pay an ample recompense for our attention, time, and labour; and, finally, prove a source of the greatest gratification and pleasure to ourselves, families, and friends. Being enriched and ornamented by useful and profitable objects, they will read a lesson of industry to those who have usually spent their time in slovenliness, folly, and bad habits. The richer inhabitants, by joining the society, may facilitate its views, and greatly assist the more humble, either by advice, instructions, premiums, or by distributing plants.”

The Evesham Flower and Fruit Society, now establishing, have issued a prospectus, of which the following is an extract:—

“Every institution which has in view the promotion of friendship, the benefit of a neighbourhood, and the improvement of a country, merits patronage and approbation. Whether the formation of a flower and fruit society can aid these important objects, to the unreflecting mind may appear doubtful, but the more minute enquirer will not hesitate to admit the fact. Man needs amusement; if he cannot procure real, he will purchase imaginary, pleasures. Excite in him a love for the works of creation, and you not only solace his mind and employ his leisure hours, but improve his taste and strengthen his judgment: animate his exertions with the prospect of reward, and you will not only behold nature herself improved by his care, but gaining fresh admirers, ‘even as beauty fascinates more

when attired in elegant simplicity, than when covered with rags.' The success of his endeavours not only awakens curiosity, but supplies his tables with new and delicious fruits, and makes his parterres (too frequently filled with inferior flowers) shine resplendent with new varieties of the most beautiful tints and fragrance, thereby benefiting his neighbourhood and enriching his country; for every advancement in art or commerce, nature or philosophy, gives additional lustre to a nation's renown."

The exhibitions will be held at Mr. Mayfield's, Northwick Arms Inn, Evesham.

ART. V. *Covent Garden Market.*

"The past winter has been one of the most severe which we have experienced for many years. During the month of February, and the first fortnight of March, we have been very scantily supplied with vegetables; in February, coleworts were sold for from 10s. to 14s. a dozen bunches; mushrooms, 6s. and 7s. a pottle; and broccoli, from 6s. to 12s. per bunch. Towards the end of March, our Market has been better supplied; and April coming in free from frosty mornings, has brought vegetation very forward, and presented a fair prospect of an abundant crop of fruit. In the first week in April, hot-house grapes were brought to market by Mr. Brefett, of Barnes, near Mortlake, and were sold from 20s. to 30s. per lb. according to their quality. Forced strawberries are now coming in abundantly, and these and other forced articles are selling pretty nearly at the prices mentioned in the table in your *Encyclopædia* (of G. § 7514). There have been some jars of preserved green peas from Holland in the market, a thing not known till last winter. The peas are gathered in autumn when nearly ripe, shelled, put in small glass bottles which have been previously fumigated with sulphur, and buried five or six feet deep in dry earth; so at least I am told by a German gardener. They are selling as low as 3s. a quart, but are only fit for stewing or soups." — (J.G., April 10th.)

ART. VI. *Calls at Suburban Gardens.*

Gunnersbury House, Major Morrison, May 4. 1826.—This is a very handsome villa, on a bank sloping to the south-east, commanding extensive views towards London, and over the Surrey hills. The house is a plain but elegant structure; a conservatory is attached to it, and in front there is a terrace walk, which forms one of the most useful and agreeable features of the place; it would be improved by appropriate architectural terminations, such as alcoves, porticoes, or covered seats. Advantage is taken of an abundant supply of clear water, to form a covered bath, supplied by a grotesque cascade, within the building; the basin of the bath forms the reservoir of a jet on a lower level, from which issues a stream led along a pebbly bed, to a considerable piece of water, which in the views from the house occupies with excellent effect what painters call the middle distance. There are many extensive and agreeable walks, through well wooded scenery; some large and lofty trees, and fine American shrubs. But the kitchen-garden here is what for some years past has excited the great interest, from the superior cultivation of the pine-apple, by Mr. William Johnston Shennan. He grows them both in pits heated by tan and dung, without flues or steam-pipes; and also in hot-houses along with grapes. In one house, erected last summer, the bottom heat is supplied by flues and steam jointly, in the following manner: A vault is formed under the platform on which the plants are to stand, in which a flue is carried round. Over the furnace to this flue is a small iron boiler (*fig. 90.*) with a copper cover from which a pipe of 2 or 3 feet in length, conveys the steam to the vault,

where it either remains and condenses, or is let out by different openings in the brick-work, to fill the atmosphere of the house. The boiler requires little or no attention, being supplied by a pipe (a) communicating with a

pond in the pleasure ground; a float in the boiler (b) operates like a common ballcock, in regulating the supply; near the main pipe (c) there is a safety valve (d), and a manhole for cleaning out sediment. The cover is very judiciously coated over with clay (e) to retain the heat. The pine plants over the vaults are set in tan, merely to retain the pots in an equable degree of moisture. Another flue is conducted along the front of the house to heat its atmosphere, and thus, by means of steam and smoke jointly, Mr. Shennan keeps up that powerful degree of heat and moisture, which is evidently the principal cause of the extraordinary, and we might say, unequalled luxuriance of his plants. The soil in which they are planted appears to be nothing more than turfy loam and rotten dung; but we hope, by and by, Mr. Shennan will speak for himself on this subject.

In the open garden we observed a very early variety of pea, resembling the frame sort, but at least a fortnight earlier. The seed was obtained from a Frenchman, formerly gardener to General Dumourier, at Ealing. Another early dwarf variety was procured from Guernsey. But the most valuable culinary crop which we observed, was a plantation of early emperor cabbage, most of which were headed, and one plant eminently so, which Mr. S. intends keeping for seed. We have little doubt from what we have seen here, and at Mr. Greig's at Islington, and other places, that the early emperor is the best early variety of cabbage at present in use; and we would suggest to gardeners to recommend it to cottagers as a substitute for the early Upsal, early York, and other common varieties. Mr. S. has been remarkably successful in growing the orange, of which there is a fine show in the conservatory. With *Cactus speciosus*, and speciosissimus, *Erythrina, crista galla*, and various other plants, he is also eminently successful.

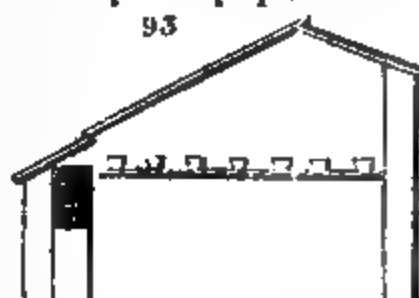
Wilmot's fruit garden, Isleworth, May 11. 1836. This immense horticultural establishment consists of upwards of 60 acres, in different gardens, attached and detached, and surrounded for the most part by good walls. The grounds are wholly occupied by fruit trees, fruit shrubs, and strawberries; for, with the exception of tart rhubarb, Mr. W. cultivates no culinary vegetables. The rhubarb he was the first to bring to market about eleven years ago; he now sends a waggon load at a time, and believes there may be 100 acres under that crop in the neighbourhood of London; a striking proof of the important public and private advantages which result from the introduction of novelties of use or beauty into commerce. A similar remark may be applied to "Wilmot's superb" strawberry, of which, as may be supposed, there are extensive plantations here; orders are still executing, though the plants are coming into flower: in two years it will be common in every part of Europe, where strawberries are cultivated. Such are the advantages of peace, and the public press. The large size of this fruit, and

Keen's seedling, will materially alter the character of the strawberry as a dessert fruit, and rank it with plums and peaches: for hundreds that were required formerly to make a dish, tens will now suffice. There are an almost countless number of hot-houses and pits in these gardens, occupied in forcing strawberries, peaches, and grapes, and with pine apples; there is a considerable variety in their construction, from the study of which, the young gardener may derive some valuable ideas. The best house for the early forcing of strawberries, Mr. W. considers to be one with a very steep roof, and narrow (fig. 91); the plants are kept very close to the glass, and the upper row in this, and in other houses, is watered from a flat tin case

(fig. 92.) of Mr. W.'s invention.



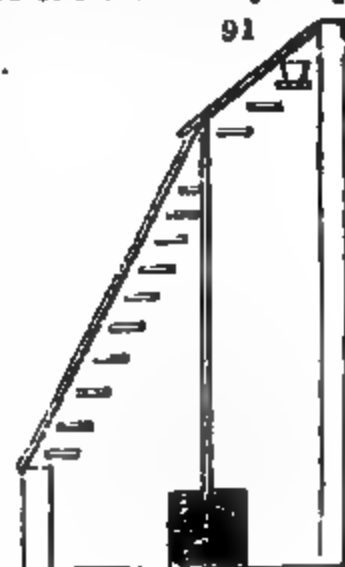
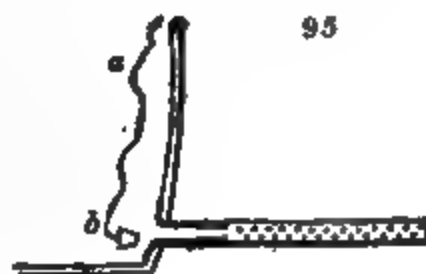
An improvement in the construction of pine pits consists in having an opaque roof over the front flue, and a similar space opaque behind (fig. 93). Over the flue, light is not wanted, and over the back row of pines, Mr. W. thinks perpendicular light may be dispensed with; the result



is a great saving of glass in the first construction, and the prevention of the escape of heat, by so much opaque roof. A very important practice consists in covering all the pits and the houses, in early forcing, during night, with boards. These retain much more heat than mats or canvass; are less liable to be displaced by wind; admit no rain, and do not abstract so much heat by the evaporation of what may fall on them, as does any thin material; are more durable, and even more easily and quickly put on, and taken off; as a last advantage, when taken off after rain, they do not require, like any woven covering, to be spread out to dry. Mr. W. considers them as saving a very large proportion of fuel, and every gardener knows that it is much more congenial to plants to save heat, than to supply the continual waste of it by smoke flues. The shutters are painted for durability, and of a white colour, in order not to radiate heat.

The strawberries in the open garden are chiefly Keen's seedling, and Wilmot's superb, in rows 2 feet apart, and from 1 foot to 18 inches distant in the row: the ground at this season is mulched with clean straw, to retain the moisture, and keep the fruit clean. While in blossom, they are regularly watered by wheel-barrels, (fig. 94.) which have a perforated cylinder, projecting about 2 feet from one side (fig. 95.). A plug (a),

prevents the escape of the water till the barrel is wheeled to the proper spot; it has a cord attached (b), to which a bit of wood



is appended (c); the moment the waterer enters between the rows, he pulls the string, and as he wheels along, the water rapidly escapes. In this unfavourable season, watering had not yet commenced, on account of the frosty nights. The principal strawberry forced here, and also at Spring Grove, is Keens' seedling; the Grove-end scarlet for an early crop, and the Bostock for the 2d crop; all the three are great bearers.

Mr. W. embraces every opportunity of introducing the best new sorts of tree fruits, by grafting them on the old sorts, both trained and standards. He has a kind of barley with 8 rows of grain in the ear, probably a variety of hexástichon. His mode of destroying ants in the open garden, is by taking a straight rod, such as the handle of a hoe, or rake, and pushing it down 2 feet, so as to leave an open round hole of that depth; the ants will precipitate themselves into the hole, and, from the smoothness of its sides, be unable to get up. Once a day, some water may be poured into the hole, to drown what are there, and the round stick re-inserted, so as to maintain the smoothness of its sides. This mode, we understand, is known to several gardeners. Another mode is, by placing saucers with sweet, or other oil, in different places, either in the open air, or in hot-houses, which will destroy ants, beetles, crickets, and other insects, the margin of the oil being sprinkled with a little sugar. This is said to be one of the best modes of destroying crickets and beetles in dwelling-houses.

Keens' fruit garden, Isleworth, May 11. 1826. The extent of these grounds is about the same as those of Mr. Wilmot, and like them they are almost entirely devoted to the culture of fruits; there are here, however, very few walls, or hothouses, and no pines or peaches are grown. China roses are forced to a great extent in vineries, and the pots when in flower sent to market. Sea-cale and rhubarb are also forced in pits. Instead of being surrounded and intersected by walls, the grounds here are sheltered by hedges, chiefly of common laurel, but also in some places of yew and hawthorn, the whole planted by Mr. Keens himself. They are planted on raised banks kept very narrow and high, the crest of the hedge being left irregular as to height. At the base on the steep bank of earth there is a row of strawberries, and a row of early peas. The latter vegetable, rhubarb, and sea-cale, are the only culinary plants grown by Mr. Keens for the market. The greater part of the garden is covered with Keens' seedling strawberry and Keens' seedling gooseberry; certainly two of the best hardy fruits of their kinds ever raised; being large, of good flavour, hardy, and great bearers. In the latter respect Keens' strawberry is not surpassed by any variety, which, considering the size of the fruit, is a most valuable property. The treatment of strawberries here is the same as at Mr. Wilmot's. The sort of rhubarb grown in both gardens, and also at Spring Grove, is the early variety commonly called the Siberian, which is found sometimes to run, or become spurious. What is called the Scotch hybrid is also grown by Mr. Oldaker, and considered superior to the other, though later. Buck's rhubarb is also grown by the latter, and, being a smaller growing plant, is, as might be supposed, of a somewhat higher flavour; but the best flavoured of all Dr. Thomson (*G. M.* vol. i. p. 396.) considers to be the *R. palmátum*. Sea-cale is propagated by Mr. K. as by Mr. O., by the root, a superior mode to raising it from seed. The roots of old plants are cut into pieces about an inch long, and laid into drills like potatoe sets. This is done in order to prevent the risk of placing the root end of the cutting uppermost, which might happen in dibbling them, and if it did happen, the roots would never produce shoots. The same thing applies to every description of plant which may be propagated from roots without visible buds; as the common thorn, from the roots of which Mr. K. has several hedges; the apple, pear, plum, cherry, elm, sumach, &c. The laurel hedges here in very severe winters are killed down to the ground; but when that is the case, they are

cut over by the surface, and make shoots from 3 to 6 feet long the first season. The yew hedges have attained a great height, and yet are not more than 18 inches broad at bottom, tapering to a few inches at top. There are a number of large walnut trees here, which Mr. K. raised from the nut 30 years ago; they are in full bearing, but this season all the blossom has been destroyed by frost.

To renovate a plantation of sea-cale, in which the collar of the plant has become rugged outside, and rotten in the centre, the plants and soil are pared with the spade to such a depth as the decayed part reaches, and the sound root left bare till it has sent up young shoots, which are thinned out, and earthed up, and thus produce a complete renewal.

The mistletoe is propagated most successfully by Mr. Keen by sticking the berries on smooth healthy parts of the bark of the apple, simply bruising the berry a little, so that when it dries it may be glued to the bark. To make an incision Mr. K. considers injurious, as hardening the bark, and preventing the entrance of the radicle, which first rises up from the seed, and then turns down and penetrates the bark. Little more takes place the first year; and in the second and succeeding years it does not grow more than an inch or two in a year. We are inclined to think that this must be the best mode of propagating the mistletoe, as it certainly is the most natural and simple. (*See Encyc. of Gard.* § 6588.) Mr. Keen is the proprietor of the greater part of his garden, which very considerable property he has attained chiefly by industry, and a judicious marriage, frankly avowing that he began the world without a shilling of capital.

Lyne Grove, near Chertsey, Surrey, May 12. 1826. This is an elevated situation, finely varied by nature, and planted with a considerable degree of taste. The house commands extensive views, and what adds to the value of these views, in a small place like this, is, that the fore-ground on every side is part of the property, and not, as often happens, belonging to another owner. No neighbour's grounds can be said to "lie in the middle," which, as says the Attorney Marvel, (*New Way to pay Old Debts*) "is a foul blemish." But the house, though it contains some good rooms, has great faults; the store-room and bath-room, (*fig. 96. a, b*) can only

be entered through the dining-room (*c*), or drawing-room (*d*); and the offices (*e*), by being at the wrong end, occasion the road to the kitchen court (*f*) to pass in the garden front (*g*). The arrangement ought to have

been reversed (*fig* 97.); and had this been done, few situations are better calculated for a display, both of architecture and gardening, on a small scale.

97

At the bottom of the steep winding bank on which the house is situated, are two pieces of water, (*fig*. 98.) which might be reduced to the

same level, and extended with great advantage (*fig*. 99.) At the head or

dam (fig. 99. a.), an excellent waterfall or cascade might be formed, and a forcing pump, on the plan of that of Ilam near Ashbourne, in Derbyshire,

(See *Mech. Mag. Vol. IV.*) might raise water to the house and flower-garden. The former is at present supplied by a forcing pump, from a very deep well, with considerable manual labour. The valley in which this piece of water lies abounds in bog earth, and being sheltered, is admirably adapted for American shrubs. In short, Lyne Grove might be made a most beautiful residence; and with little pecuniary loss, as the greater part of the soil is too poor to pay for being kept in a state of aration. It is at present occupied by W. A. Manning, Esquire, a gentleman of elegant taste, and much attached to rural life and agriculture.

Fan Grove, Sir Herbert Taylor, May 12. 1826. A small place formed on an elevated situation on thin gravelly soil, lately covered with heath. No expense has been spared in forming walks and planting trees and shrubs, and the result is as good as the place admits of; but as there is no striking natural feature, unless we except one, viz., a hill, well adapted for a prospect tower, the general effect is not interesting. In this respect Lyne Grove is exactly the opposite of Fan Grove: in the former, the situation for a house is decidedly indicated by nature, or, which is nearly the same thing, the house, plantations, and water, are so placed as to convey that idea; in the latter there seems no particular reason why the house is placed where it is: as far as a stranger can see, it might have been placed either to the right or to the left, or higher, or lower, and still have appeared the same sort of thing; but looking from a distance at Lyne Grove, the house appears exactly where it ought to be, and could not be moved either to the right or left, backwards or forwards, without deranging the

effect. The study of these two residences is well calculated to show the advantages of natural features in the ground-surface; with how little art an effect may be produced where good features exist; and how far the utmost efforts of art alone, fall short of the effect of art and nature united.

American plants thrive remarkably well here; Rhododéndrons, Azáleas, and Kálmias, rise up from self-sown seeds. A part of the wall of the kitchen garden is built on the waving or serpentine plan, by which a height of twelve feet is attained with a thickness of only nine inches. The fruit-trees in this garden are remarkably well trained and pruned; the ground seems judiciously cropped, and the whole place is kept in very neat order

Mr. Latour's Villa, Craven Hill,

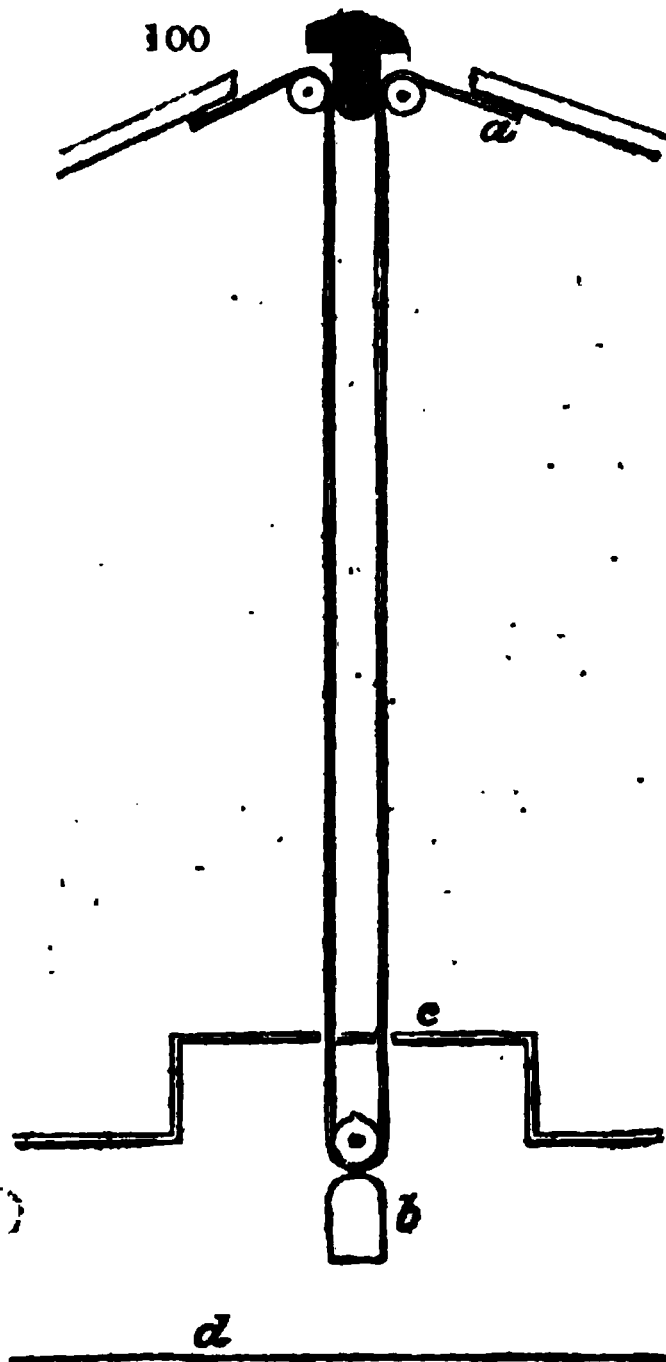
April 25. The house has been remodelled, and now presents an elegant exterior. It contains on the ground floor seven living rooms and a conservatory *en suite*, arranged with the greatest taste, and combining the best features of both the English and French styles of decoration and furniture. What we notice it for, is on account of the

mode of hanging the roof sashes of the conservatory, which is worthy of imitation. It is on the principle of a self-balanced chandelier. A cord from each sash passes over a pulley (*fig. 100 a*) and is joined under the stage (*c*), where a weight (*b*) is attached to them by another pulley, and may either be limited in its descent by the ground (*d*), or by the length of line. By this arrangement, easily understood, either or both sashes may be opened to any extent by a very slight motion of the line, and without the least derangement of the plants, or unsightly fastenings of the cord.

The immense domical hothouse erected by Messrs. Bailey for Mrs. Beaumont, at Bretton Hall, is ventilated on the same principle.

In the garden there are some standard Rose Acacias, from Brussels, such as have been lately imported from Paris by some of the nurserymen.

Kensington Nursery, Messrs. Malcolm and Gray, April 7. One of our objects in the Gardener's Magazine is to bring into notice plants and trees of remarkable interest and beauty, more especially those of the shrubby kind which endure the open air in our climate. There are a number of noble Chinese and American trees and shrubs in the country, which are very imperfectly known, and consequently not half so common as they ought to be. Among these, may be mentioned the *Magnolia conspicua*, which, when in flower (*fig. 101*), is one of the finest objects in the vegetable creation; yet Messrs. Loddiges remark (*Bot. Cal. Part. cxix. Gard. Mag. p. 334*) that it has been comparatively neglected for the last twenty years. The Kensington Nursery contains one of the finest specimens of this tree in the neighbourhood of London, and the plant deserves the more atten-



tion, because every one who has a few yards of ground may for a trifle, and a very few years' patience, have one equally handsome. The *Magnolia* in the Kensington Nursery is a shoot from the centre of a stool of about seven years' growth; it is nine feet high, and about the same width, and at

this moment is covered with 1100 tulip-like blossoms, as white as snow, and highly odoriferous. There are fine specimens of the same tree at Lee's nursery, Haringay, Eastwell Park, Wormleybury, (*G. M.* vol. i. p. 154.), and a few other places. Good plants in pots cost 7s. 6d. each. No person who has the slightest pretension to a love of plants, and a garden, ought to be without it, and the following: *Magnolia purpurea*, and *Photinia glabra*, in pots,

9s. 6d. each; *Glýcine sinénsis*, in pots, 21s.; *Lonicéra japoníca*, flexuósa, pubéscens, and fláva, 2s. each; *Chimonánthus frágrans*, 5s.; *Cydónia japoníca*, 2s.; *Pæónia móutan*, 5s., all hardy, and plants well worth purchasing. For a south wall, any front of a house but the N. E., or a sheltered situation in a shrubbery, *Magnólia grandiflóra*, *Eriobótrya japoníca*, *Vibúrnum rugósum*, and odoratíssimum, 3s. each, and the *Caméllia*, 5s. each, are noble ever-green and free-flowering plants. *Glýcine*, 21s., will be seen in magnificent style in the H. S.'s garden about the 7th of May. These plants may be had from, or through, any nurseryman.

Palace and Gardens of Buckingham House, April 9th. — Having read in the newspapers of mountains and lakes said to be forming in the grounds attached to Buckingham-house, we embraced an opportunity which offered of viewing the alterations and erections now going forward there. The garden-front of the palace is, to our taste, an unexceptionable piece of architecture; it is grand, and yet elegant; simple and easy to be comprehended in the general masses, and yet sufficiently enriched in detail to mark it as an abode destined for splendid enjoyment. We did not observe any columns or other architectural forms, which should always be, or seem to be, essential parts of a building, placed against walls merely for effect, and to make up a certain show of ornament; as, for instance, in the new buildings at the Treasury, and before the arches of the new entrance to Hyde Park, at the end of Piccadilly, in both which cases the columns have not the slightest pretensions to utility; they are introduced entirely for their effect, and, from being component and co-operating parts essential to high character, are degraded to the rank of ornamental appendages to cover poverty of design. The entrance-front of the palace is not yet in a state fit to be spoken of, but the other, we repeat, is entirely to our taste. The shortest way to give our readers a correct idea of it, will be by an engraving which will be found in a future number.

We wish we could bestow equal approbation on this palace in point of salubrity of situation; but in that respect, we consider it one of the most unfortunate buildings in or about London. Had the problem been proposed to alter Buckingham-house and gardens so as to render the former as unhealthy a dwelling as possible, it could not have been better solved than by the works executed. The belt of trees which forms the margin of these grounds, has long acted as the sides of a basin or small valley, to retain the vapours which were collected within, and which, when the basin was full, could only flow out by the lower extremity over the roofs of the stables and other buildings at the palace. What vapour did not escape in this manner, found its way through between the stems of the trees which adjoin these buildings, and through the palace windows. Now, all the leading improvements on the grounds have a direct tendency to increase this evil. They consist in thickening the marginal belts on both sides of the hollow with evergreens to shut out London; in one place substituting for the belt, an immense bank of earth to shut out the stables, and in the area of the grounds forming numerous flower-gardens, and other scenes with dug surfaces, a basin, fountains, and a lake of several acres. The effect of all this will be a more copious and rapid exhalation of moisture from the water, dug earth, and increased surface of foliage, and a more complete dam to prevent the escape of this moist atmosphere, otherwise than through the windows, or over the top of the palace. The garden may be considered as a pond brimful of fog, the ornamental water as the perpetual supply of this fog, the palace as a cascade which it flows over, and the windows as the sluices which it passes through. We defy any medical man, or meteorologist to prove the contrary of what we assert, viz., that Buckingham Palace is a dam to a pond of watery vapour, and that the pond will always be filled with vapour to the level of the top of the dam. The

only question is, how far this vapour is entitled to be called *malaria*? We have the misfortune to be able to answer that question experimentally.

So limited a spot, and without distant prospect, admits of but little effect in a picturesque point of view; and the smoke of the neighbourhood precludes all hope of creating much interest from the more rare ornamental plants. It is unfortunate that the high bank of earth, which some of the newspapers compared to the mountains of Westmoreland, should come so near to one wing, and project so much in front of the palace, and that it should not have been thought worth while to vary the outline either of its base or summit. It might have conveyed some distant allusion to an undulating ridge of low hills; but, instead of that, it is merely a lumpish mound of earth, — the bank of a great ditch. There is nothing about it which can help the imagination to a single idea belonging to a natural surface; and it is not to be wondered that the writers in the newspapers recalled the idea of the mountains and lakes of Westmoreland as a relief to their minds, since nothing is more natural than to fly from one extreme to the other. Gilpin, however, in his “North of England,” complains of some of the hills about the lakes being hog-backed; and to these the comparison in the newspapers probably alluded. This mound, however, is not completed, and perhaps something may be done in putting in the timber trees. The water is still farther from being finished, and will require a good deal of management. We entirely approve of the manner of grouping and massing the shrubs, and also of most of the minor undulations of the surface. In one part of the mound some large bays and retiring recesses of turf are wanting, to break the uniformity of its planted surface; but with the exception of this part of the work, the putting in of the shrubs and trees has our entire approbation.

It is painful to dwell either on the alterations in the grounds or on the situation of the palace, because it is obvious that the expense of all these improvements is just so much money thrown away. A man must be something less or more than a king to keep his health in that palace for any length of time. It would have been much better to have opened the grounds to the public, united them with the Green Park, and left Buckingham-house as it was, for the use of pensioners or old servants. If it is essential that the king should have a palace in London, we should prefer one raised on the banks of the Thames, in the manner of the palace and gardens of Babylon. The platform of such a palace should be higher than the highest part of Somerset buildings or the Banqueting-house, and should display an acre or more of terraced gardens. One acre of elevated platform, highly enriched with plants and sculpture, and with London and its environs for distant scenery, would afford more splendid and healthier enjoyment than twenty acres laid out in the style of Buckingham Gardens. Recluse enjoyment might be had at some of the country palaces. The idea of the king wandering after it in a dense fog behind Buckingham-house, is not very sublime. But if a Babylonian palace would be too expensive, there is the circular part of the Regent’s Park, or, what is *naturally* the best situation about London, though *accidentally* the worst, Greenwich Park.

ART VII. Garden Libraries.

Our suggestions as to *garden libraries* have met with universal approbation among gardeners, and though from various circumstances many are prevented from carrying them into effect, still there are a number who will be able

to succeed, and a scheme is not the less useful and permanent for being slowly adopted. Nothing can be truly great and lasting that does not proceed by degrees, and require a considerable time for its completion. Whoever understands any thing of gardening as a science, and of vegetable physiology and chemistry as connected with it, we are confident will agree with us in anticipating a more general and effectual advancement of the art from the improvement of the minds of gardeners, than from any other source or means whatever. There is abundance of scientific and historical knowledge in books; what is chiefly wanting is to embody this knowledge in the routine of the practical gardener, and there is no mode by which this can be done so simply and effectually, as by rendering the working gardener, also a reading gardener.

No. IV. — *Northwick Park Garden Library* (p. 247.)

Mr. Fulton writes that his employer, Lord Northwick, has kindly condescended to assist him with what books he may point out, so that this library may now be considered as belonging to the first class.

The following have been established since February last :

No. V. — *Mearns's Shobden Court Garden Library*. Established at Shobden Court, near Leominster, Herefordshire, March 13. 1827.

Mr. Mearns has collected, at his own expense, about 200 volumes of elementary, professional, and miscellaneous works. He frequently takes young men who can read but little, and write none, and carries them through a course of useful instruction, so as to fit them for advancing in their profession. Mr. M. recommends "Bingley's Book of Knowledge," 3 vols. 12mo. 1*l.* 1*s.*; and to all who have been but little at any school, the "Expeditious Instructor," 1 vol. 18mo. 1*s.* 6*d.*, and "Greig's World Displayed," 1 vol. 8vo. 12*s.* 6*d.* "Bingley's Book of Knowledge" being published by the Society for promoting Christian Knowledge, "can be had reasonable by young men in the country, through clergymen and others who are subscribers to that Society. "Elegant, Extracts, Prose," 1 vol. royal 8vo. 15*s.* "ought not to be excluded from garden libraries; as its perusal will add much to the improvement as well as to the amusement of the gardener's leisure hours."

No. VI. — *Rollins's Forseth Park Garden Library*. Established for the Use of the Practical Gardeners and Cottagers in that Part of the neighbourhood of Liverpool, March 26. 1827.

This library is supported and patronised by Mr. Joseph Whalley, nurseryman, Everton; Mrs. Ed. Cropper, and Miss Cropper of Dingle Bank; Mr. Henry Shepherd, Liverpool Botanic Garden; Wm. Roscoe, Esq. Lodge Lane; Mrs. Ed. Roscoe of High Park; and about eighteen other ladies, gentlemen, practical gardeners, and cottagers. A number of books have been collected, but we have not yet received the list.

No. VII. — *Burns's Mistle Hall Garden Library, Second Class*. Established by Mr. Wm. Burns, at Mistle Hall Gardens, April 2. 1827.

This library consists of about fifty well selected books, and some mathematical instruments; to it and each of the others one volume has been presented from Mr. Massey's present (*Gard. Mag.* vol. ii. p. 247.), some volumes from Messrs. Longman, Rees, and Co., and one or two as memorandums from our own shelves.

Village Libraries. — The good which would result from *village and town libraries*, either with or without what might be called *Labourers' Institutions*, as suggested by our "Constant Female Reader" (p. 248.) there can

be little doubt would be great in proportion to the greater number of persons for whom they are intended. The establishment of village libraries may be more difficult, and consequently slow, than libraries in private gardens, where a more definite and immediate interest exists, both as respects the employer and the employed; but the friends of improvement will not on that account be disheartened. Still, when we consider what has been done in the establishment of Mechanics' Institutions and libraries, and the result, there can be little doubt that what may be termed the agricultural population, aided by clergymen, medical men, farmers, tradesmen, &c. will in a short time follow in the road to improvement, and *Labourers' Institutions and Libraries* ultimately become general throughout the country. So many advantages may be derived from the possession of knowledge, that reading must ultimately become general in every class of society.

A taste for reading among country labourers is most likely to be induced by motives of profit or increased enjoyment; and it is thought that books on gardening, by teaching them how to increase the advantages derived from their gardens, would be more likely than any other books to present these motives. After the purposes of utility were satisfied, those of inquiry and curiosity would demand gratification; and then would come into use books on science, history, biography, and other departments of literature. This taste might become progressive among the very lowest classes, till, from a luxury indulged in under favourable circumstances, it became at last a necessary of life, which could not be dispensed with in the calculation of the means of subsistence. The idea of libraries in poorhouses and parish workhouses, as necessary for the comfortable support of the aged poor, will no doubt at first appear sufficiently extravagant; but a little reflection will soon convince us, that it is not more so than many other ideas which have been realized. Supposing that reading were as universal amongst the lowest classes as drinking tea, and that books were considered a necessary part of the furnishing of every poor-house, what harm would result to any part of society? On the other hand, how greatly would be increased the enjoyments of such as were compelled to become the inmates of these establishments? Those only can enter into this idea, who, from ill health, solitude, or other circumstances, have been reduced to the pleasures of reading.

Could reading be rendered a necessary of life to the lowest classes, the advantages to them would be great; because the wages paid for their labour will always be limited to what constitutes for them the necessities of life. If reading, therefore, could be rendered as essential as clothing or cookery, it is evident the wages of labour would be increased, so as to enable the labourer to purchase books and candles, as well as cloth and fuel, and the number of hours' labour per day diminished, in order to allow him time to read, as well as to dress and cook. Every one will allow that even an approximation to such a result must be advantageous, not to the labourer merely, but to society in general.

Rail Village Library. — "Sir, — The success attending your suggestions respecting garden libraries cannot fail to afford pleasure to every benevolent mind at all interested in horticultural matters; but those who, some five-and-twenty or thirty years ago, plodded onward in the unwearied search after that knowledge which is necessary to fit the horticultural student for occupying with credit that situation to which he aspires, amongst the comparatively scanty materials which even that recent period afforded, will best know how to appreciate the advantage to be derived from the recent works on gardening, to which you have contributed your full share, and which garden or village libraries are well calculated to render easily accessible. Such being my opinion, it may naturally be expected that I have taken some

steps towards the establishment of something of a similar nature in this quarter.

"Till I saw garden libraries recommended in your *Encyclopædia of Gardening and Gardener's Magazine*, I never thought of the practicability of such a plan. Although I have higher hopes of support to such useful institutions than your 'Constant Female Reader,' still I know there are many instances, particularly where only one or two lads are kept, where sufficient attention to the subject could not be expected: but there are few gardeners so situated who may not, in some way or other, devise means to procure books sufficient to occupy the leisure hours of their men when the work of the day is over; and I may here take the liberty to detail the method by which the lads that have been with me obtained easy access to books for general reading, and also the means I now devise to afford reading to them and others allied to our profession.

"The populous village of Rait lies within a short distance of this place. About seventeen years ago I suggested to the inhabitants the propriety of establishing a village library. The idea appeared novel, but the thing was gone into. Each member, by paying a small sum of entry money and small quarterly payments, possesses a share, which he may dispose of, under certain restrictions, when he leaves the place. This right entitles him to vote at all quarterly meetings. Small fines are imposed for too long detention of books, and a small sum, as interest, is charged on all arrears after quarterly meetings, which insures prompt payment. It was not without some trouble that the business was managed at the commencement; but the machine once set a going, now moves on smoothly of its own accord; and the villagers, whose means of procuring books were as scanty as those of the young gardener, and their taste for reading naturally less, have now acquired a taste for general reading, and possess ample means, on easy terms, for gratifying that taste. Thus far we have advanced; and in order to excite a taste for reading on gardening and rural subjects, I have proposed to establish in the same village,

"*A Village Garden Society*, offering premiums for the production of certain vegetables, flowers, and fruits. I calculated on a tardy adoption of the plan, but am glad to observe that the regulations had only to be read to insure a ready acquiescence. Of our ultimate success I may hereafter send you an account, and particularly of the books connected with rural subjects that may be introduced to our library. Perhaps I should mention that H. B. Stuart, Esq. of Annat, and his lady, on whose property the greatest part of our members reside, and also William Dickson, Esq. of Barn Hill of Kinnoul Nurseries, have most kindly come forward in support of our infant institution.

"I hope the above narrative will not appear egotistical. I claim no merit in the part I have taken. I have merely recommended to others what I know would add to their comfort; and I now mention it to show that a gardener, in whatever situation he is, may have much in his power in the way of obtaining books, not only for his lads, but also for those of the lower orders amongst or near whom he may be destined to live. Nor should he be discouraged by untoward circumstances in the outset: 'a good action always remunerates itself.'—I have ordered a dendrometer to be made, which I propose sending for the use of the young men in the Clapton nursery; and as a friend has sent me some queries as to the use of the instrument, I shall accompany the present with extracts from my reply. I hope to be able to do this in time for these extracts being sent for your July number. Besides the instruments mentioned by Mr. Rentoul as necessary for young gardeners, I should suppose a theodolite, or at least a plain table, for taking angles in surveying, would be useful. I may hereafter send for

your Magazine some hints on surveying, keeping a field book, &c., which may be useful for my young brethren.

"Wishing you the success in your undertaking which you deserve, I remain most respectfully, Sir, &c.

"*Annat Garden, March 11. 1827.*

ARCHIBALD GORRIE."

Itinerating, Juvenile and Village Libraries, have been established for a number of years in the county of East Lothian, and the "Third Report" of this Institution, (12mo. pp. 16. 1823), has just been sent us. "The object of this Institution is to furnish the towns and the villages of East Lothian with libraries of useful books, consisting of such as are calculated to promote the knowledge of religion, agriculture, mechanics, the construction of implements of husbandry, history, travels, &c. The books are arranged into divisions of fifty volumes, which are stationed in a place for two years, where they are issued gratuitously to all persons above 12 years of age, who agree to take care of them; and after this period they are removed, or exchanged with other divisions. The Institution is chiefly supported by the subscriptions and donations of benevolent individuals and religious societies, and the profits from the sale of religious periodical publications sold by the manager, Mr. Samuel Brown, of Haddington," the original inventor of the plan.

We strongly recommend this pamphlet to all who take an interest in the subject; and, we have no doubt the inventor and manager would willingly give any farther information that might be required. The different "Reports" are so small, that they might be sent under a frank. In the "Scotsman" Newspaper for March 28, is the following account of the establishment of an Itinerating Library in Mid Lothian:

"Some months ago a Society was formed here for establishing Itinerating Libraries in Mid Lothian; and we are happy to say, that they have now so far completed their arrangements, that they have six divisions ready for circulation. Each division consists of fifty volumes; the books are generally of cheap editions, and of a miscellaneous character, including history, travels, scientific treatises, with a pretty large proportion of religious works; and what is a material advantage, all of them are of a description which may be put into the hands of persons of any age, and of either sex. Each division is put up in a neat green box, about two feet broad by two and a half long, and six or seven inches deep, with a lock on it, and shelved within. This box serves to convey the books from place to place, and, when set on its end, forms a ready-made book-case. On application to the Society, a division is sent to any respectable person in a village. Thirty shillings per annum is charged by the Society for the use of fifty volumes; but the parties are allowed to change the lot of books as often as they please within the year, without paying any thing more, except the expense of carriage. A catalogue printed on a single leaf, is put into each volume, containing the names of all the books in the division. In one respect the system of the Edinburgh Itinerating Libraries differs from that adopted in East Lothian by the inventor, Mr. Samuel Brown. In the latter, the books are lent out gratuitously; in the former, a small charge is made for their use. Local circumstances may render the one or the other system more eligible; but speaking generally we prefer the latter; because, by this mode the libraries, when once established, will support themselves, and the persons for whom they are intended will not have their pride hurt by receiving as charity what they are willing to pay for. We need scarcely add, that the Society is not a trading establishment, but a benevolent institution, of which the Reverend Dr. Gordon, Mr. Grey, and other excellent men are members. We warmly recommend it to public patronage. The advantages which the scheme holds out for the diffusion of knowledge are astonishingly great, and must, sooner or later, bring these libraries into universal use. It is no exaggeration to say, that one pound applied in this way, will go as far in spreading information as fifty or one hundred pounds expended on stationary libraries. Mr. Samuel Brown has, in fact, shown, and proved by the results of his own experience, that the small sum of 300*l.* per annum, would suffice in the space of twenty years, to establish and maintain two divisions in every parish in Scotland. By combining 20 or 30 stations into a circle, the inhabitants of each parish might have, at an expence of a shilling a year individually, the use of 1000 or 1500 volumes."—Two or three germs of such men as Mr. Samuel Brown must exist in every county town in Britain; if the above account does not rouse them into action we know not what will.

Such gardeners as take a twice-a-week newspaper, will find the "Scotsman," we do not hesitate to say, superior to any other journal of the kind. A considerable part of it is devoted to literature, and party politics are kept in due subordination to historical notices, and general principles of moral, political, and economical improvement. It is adapted for "man" in general as much as for a "Scotsman," and may be read with nearly equal interest in America as in Europe. Such a paper deserves binding up for future reference as much as any magazine or review.

Books for Garden and Village Libraries. The "Library of Useful Knowledge," some account of which, accompanied with the warmest approbation of its object, has been given in most of the newspapers, is now publishing in Nos. at 6d. each. All that we shall say in favour of this work is, that no gardener, whether master or journeyman, should be without it, and that every number ought to be read and studied again and again till the subject is completely mastered by the reader. As these treatises are particularly calculated for "such as are unable to avail themselves of experienced teachers, or may prefer learning by themselves," the respective subjects treated of will be more readily mastered from this, than from almost any other work. For instance, the first treatise, which is on hydrostatics, is so plain and clear, and so copiously illustrated by cuts, that any person who can read may make himself master of all the leading doctrines. A gardener will find beautifully illustrated (p. 4.) the singular principle on which Mr. Kewley's automaton gardener (*E. of G.* § 1490.) operates, and which may be applied to other most important purposes. There can scarcely be a cheaper book equally well executed, and as it appears the numbers will not come out oftener than once or twice a-month, every gardener lad may become a purchaser; and what we chiefly insist on, — may appropriate the knowledge of each No. as it appears, — so as to render it completely his own.

Employment of Time. — "You should endeavour to impress upon young men whose every thing in life depends on their own exertions, the immense importance of not merely employing every leisure moment, but of employing it systematically, or for a particular purpose. One person takes up some useful or agreeable book every morning at breakfast, and at the end of the year has spent agreeably, and we may say profitably, as many half hours as will come to nearly three weeks; another always takes up a Latin grammar, and a Janua Linguarum in the same intervals, and at the end of the year has acquired a tolerable knowledge of Latin. Thus you see that whether a young man shall know two or three languages besides his mother tongue, and something of natural history and philosophy, may depend on the seemingly trifling circumstance of how he spends the few spare minutes at the beginning and ending of his meals, from the age of fifteen to twenty-five." (*A. C.*)

Garden Libraries, it is suggested by "A Practical Gardener," might be formed and supported, and gardeners of superior abilities produced, by masters making it a rule to take no young men as apprentices without a premium, and laying out that premium on books, &c. R. G. recommends small societies or associations of practical gardeners for the purposes of purchasing books, and mutual instruction, something, as we conceive, in the manner of the Leith Walk Linnean Society. An account of this society sent us by G. W. Irvine, Esq. shall appear in our next number.

ART. VII. *Answers to Queries, and Queries.*

Culture of Cýclamen persicum, (vol i. p. 586.) — "Dear Sir, — In answer to your letter, stating that your correspondent, Mentor, complains that I do not state what is done with the bulbs after they have done blowing, I add the following particulars. After potting, and finding them well established in the pot, in full foliage, &c., I place them under glass, with as much air as they will bear, and water in proportion. The only difficulty to encounter is during the months of November and December, which, if very moist, some attention is required to keep the leaves from damping off. The only preventive is air, and as little water as the plant will exist upon. By this mode of cultivation, they will blossom very early in spring, especially if

assisted by a gentle heat, which they will require to keep the leaves from falling down by the damp. After they have blossomed, I turn them out, and treat them in the same way as the seedlings, and repot them again in the autumn.

I am, dear Sir, &c.

"Isleworth, Jan. 22. 1827.

JOHN WILMOT."

Amómum Plin'ii, in reply to G. R. — "I suspect the '*Amómum Plin'ii*' of Mawe and Abercrombie, alluded to by G. R. (p. 122.), is the '*Solánium pseudo-cap'sicum*,' a very old greenhouse shrub, bearing in winter an abundance of scarlet cherry-like fruit. The plant is very easily raised from seed, and will fruit the following season." (*Mentor*.) "It is now called *Physalis pseudo-cap'sicum*, which, when loaded with fruit, is highly ornamental among the other shrubs. Propagated by seeds, and also by cuttings, which strike freely." — (*A. B.*)

Preservation of Cut Flowers. — "For the information of your correspondent W. B., vol. i. p. 359., cut flowers may be preserved a little longer by cutting a little from the stalks every three or four days, and replacing them in fresh water, and of course clearing them each time of all decayed flowers and leaves." (*A. X. Oct. 25.*) — "Gathered flowers should never be crowded: if their stalks, leaves, and petals barely touch each other at the extremities, so much the better." (*Dr. D. of B. Sept.*)

"*The best Method of Packing Culinary Garden Seeds for Exportation* is extremely simple, and seldom fails, if the seeds are new and well ripened. The seeds should be carefully freed from every impurity; each variety should be put up in brown paper, or, what is better, in coarse linen bags. These packages are then to be placed in wicker baskets, having covers to them. The baskets are to be hung, or placed, in a free current of air in the cabin of the vessel, which is the most eligible place for them; and if neat baskets are made use of, their appearance cannot be reasonably objected to. If destined for a long voyage, they may be occasionally carried up on deck as an airing. For large assortments, if baskets are not made use of, casks or chests may be substituted; in the tops or sides of which are perforations, made large enough to allow the escape of the heated and moist air which may generate in them, but of a size so small as to prevent the entrance of cockroaches and other vermin. Large packages cannot be conveniently placed in the cabin; and if there are no other situations equally eligible, the steerage and the after-hold is the next best. In those situations they may be stowed as close to the hatchways as possible; and as those hatchways are frequently open in fine weather, the seeds have the benefit of fresh air, and may be readily hoisted upon deck for a better airing. Large packages of seeds have less chance of escaping the baneful effects of a sea voyage than small quantities.

"The confining of culinary seeds in tin cases, glass bottles, &c., so as totally to exclude the air from them, is a certain means of destroying the vegetative properties of the seeds, and appears to me (after practical observations of nearly thirty years) to be the most effectual measure that can be taken to insure destruction and disappointment. Seeds on board ship should be kept above the level of the water, if possible; but when this cannot be conveniently done, the packages will require to be the oftener taken on deck for an airing.

"Kew, March 1827.

J. B."

The Musk Plant, *A'ster argophýllus*. — "I beg leave to inform R. in U. that in the summer of 1817 I was induced to give a plant of this shrub a trial in the open ground. I planted it about eighteen inches from a south wall, (which distance I prefer for it, and also plants of similar habits, instead of planting close, and training against the wall,) where it has grown most luxuriantly, and flowered abundantly. The severe frost of January 1820, during which the thermometer here was as low as 15°, it endured very

well, with the exception of its tops being killed down a few inches; and it has suffered in the same way by the frost of several winters since.

"Luscombe, near Exeter, Feb. 10. 1827.

RICHARD SAUNDERS."

Cultivation of the Œnóthera cæspitosa and the Galárdia bicolor. — "I beg leave to recommend a plan which I have pursued for the last few years with invariable success. Both plants are extremely impatient of moisture, and therefore must be watched early in the winter. The plan pursued was the following: When the weather became cold and damp, (perhaps about November,) the plants were examined, and, if the soil was too wet, it was taken from about the roots, and light, dry soil substituted; the plants covered entirely with *dry* saw-dust, over which was placed a flower-pot, or a pot that is generally used for forcing sea-kale. During the winter the saw-dust was occasionally examined, lest it should be wet, which is the principal thing to attend to. About March, or when the probability of frost was over, the saw-dust was removed, and a little fresh soil put about the roots, and the plants generally covered for a short time with a hand glass, giving air occasionally.

"I have also pursued a method of propagating the Œnóthera cæspitosa, which, perhaps, may not generally be known; and it is valuable, as it enables this beautiful plant to be increased rapidly. Before the frost sets in, the plant must be taken out of the ground, all the soil shaken from it, and the roots broken in small pieces of about an inch or an inch and a half in length. These pieces must be planted in a pot of light soil, rather dry, and kept in a frame without any water throughout the winter. When the chance of frost is over, a little water may be given, when, in all probability, the roots will have begun to shoot, and it will be found that each piece of root will become a plant, that will flower the ensuing summer. — I am not well acquainted with the Asclépias tuberósa, named also by your correspondent; but may not the plan pursued for keeping Dáhlías be used with safety? Should the above be worth a place in your valuable Magazine, I shall feel pleasure in having been a contributor.

"Forteth Park, Liverpool, March 8. 1827.

M. R."

* *Asclépias tuberósa* is increased by cuttings of the roots, taken from the plant about the latter end of August or the beginning of March. Plant them close round the inside of a pot in a mixture of light rich loam and sandy peat, covering them about one-fifth of an inch." — Wm. Nott, Taunton Nursery.

Will Barley germinate after having been malted? — "I think it will, if not too far advanced. I have two pots by me growing vigorously. Has the experiment been tried before, or with barley which has sprung an inch or more?" — *Hordeum*, Nov. 27. 1826.

Mr. Hogg's Ideas on breaking Tulips. — "I think Thomas Hogg (who, by the way, is a friend of mine,) deserves to be severely reprimanded for raising the curiosity of poor florists, by a long article on a new plan for breaking tulips, and bringing the said article to a conclusion, without affording them a single ray of light upon the subject. If he will detail his plan, and should it prove as you suppose, I think I could convince him it is impossible. J. W." — "Mr. Hogg's plan of breaking tulips is probably that of halving the bulb lengthways, and joining to it, in the way of a graft, half the bulb of a tulip already broken. It is said that a set of a red and a set of a white potato, joined together in this way, will produce variegated offspring. J. G. Hampstead." — "Mr. Hogg's effusion on breaking tulips is a paper which you should not have admitted. A. G. Perthshire." — We hope Mr. Hogg will join with us in doing penance and making compensation, by discovering his secret in next number. *Cond.*

Tulip Bulbs, in reply to S. — Sir: Your correspondent S. wishes to be informed why, when the incipient leaves of tulips are discernible at the season

of planting, coming from the *centre* of the bulb, the flower-stems, on taking them up, are found issuing from the *bottom*. This circumstance, which at first appears remarkable, will be found, on consideration, to be easily accounted for, by the fact of the formation of a new bulb every year at the base of the flower-stem, and consequently the disappearance of the old one. In what manner this is effected, I will presently show. This new bulb exists in the centre of the old one at the time it is planted, having been formed in the preceding year's growth, and may plainly be seen by dissecting a tulip-root in the autumn, *when the entire future plant, its leaves, stem, and flower with its six petals, stamina and seed-vessel, will be found in the centre of the root, coiled up into a shape resembling that of a segar*, and about an inch long, (more or less, according to the size of the root,) and at the base of this embryo plant precisely in the situation represented in your correspondent's drawing, will be found the bulb for the next year, then the size of a small offset. The old bulb, which is merely a collection of juicy coats, formed for the protection of the embryo plant which it envelopes, having sustained it with its moisture during the time of its being out of the ground in a state of rest, and having parted with its succulency to nourish the embryo plant and new bulb during their growth when planted, is found at taking-up time deprived of its moisture, and transformed into the brown coats enveloping the new bulb, now grown to its full size, furnished with a similar embryo plant and bulb for the next year, and found in the situation represented in S.'s drawing. [This embryo bulb is formed by the returning sap, and when this is in excess, an offset, and sometimes several, will be found in addition to the principal bulb.] — (M.)

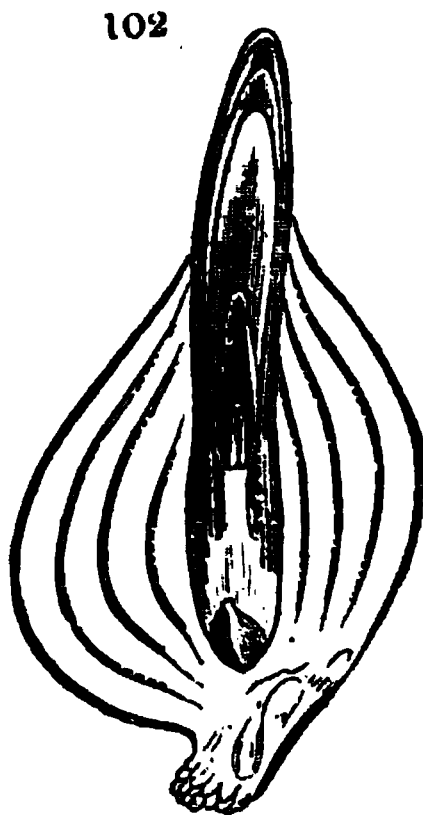
"S. would find much pleasure in dissecting a tulip root. The coats should be removed with care, otherwise the little bulb and offsets, if any, in the interior may be destroyed. The best time for doing it is late in the autumn, as the embryo plant is then more plainly developed by the sap being in motion. I dissected a root this day, having a few discarded ones unset, and afterwards divided the little bulb, which would have been the one for planting in Nov. 1827, and by taking it close to the window, but without a microscope, thought I could perceive the embryo plant for 1828. The possibility of this will probably be doubted. A few months, however, will place the means of proving it in your reader's hands. I think with the aid of a microscope my supposition will be found correct. I am, Sir, &c.

"Sheffield, Jan. 8. 1827.

JOHN WARD."

Several other Answers to the query of S. have been received; one by Thomas Butler, Esq. was accompanied by a drawing, (*fig. 102.*), in which may be seen the embryo flower of the current year, with the embryo bulb at its base. Mr. B. informs us that he cultivates at his residence, Cornwall Cottage, Hackney, nearly 500 of the most choice varieties of tulip, and that he intends figuring all the finest sorts in cultivation in a periodical publication, to be commenced in March next. We have seen the drawings which he has prepared for this work, which are equal to any thing of the kind.

Mr. French, (p. 120), an accurate and intelligent observer, says "what is by people in general called the tulip root, is nothing more than the bud, or embryo of the plant placed on the proper root; when this bud or bulb shoots into a plant, other buds or bulbs, sometimes one, and sometimes more, are formed at the base of the leaves, as in other herbaceous plants having buds or bulbs, and as in deciduous trees. The curious part of



the process is, that so large a bulb should be formed annually on so small a root; and if any method could be devised by which the tulip could be flowered in water in the same manner as the hyacinth, so that the various changes it undergoes might be observed as they take place, it certainly would be most interesting." — (*Harlow, Jan. 29.*)

The Bread Fruit Tree. — (*E. of G. § 6014, and fig. 534.*), being nearly allied to the fig, may it not prove as hardy as the fig? Has it ever been tried against a wall in the open air in a dry soil? Plants are now to be had in abundance at seven guineas and a half; ten years ago, there was scarcely any plants to be found, and one I know of, was sold at twenty guineas. It is since dead, but I have heard of a plant somewhere in the county of Durham which has ripened fruit. — (*R. S. April 2.*)

We recommend this subject to whoever is disposed to risk seven guineas and a-half for the gratification of horticulturists, and for the chance of the honour of being the first to add the bread fruit to the list of our half hardy fruits. We should not be at all surprised at our correspondent's conjecture proving true; there are many stove and green-house plants, that gardeners never think of exposing to the open air; judging from the country they come from, their unfitness for our climate is taken for granted, and the idea of giving them a trial is out of the question. Those plants of tropical climates which are hardy, or half hardy, have been discovered to be so more by accident than design. We would recommend trying every house plant in the open air, and repeating the trials, even in the event of want of success in the first and second instances. Even an indigenous plant, kept in a hot-house during summer, would be very likely to die if exposed to the open air in a pot during the succeeding winter. The plants to be tried should be put out in the beginning of summer, turned out of the pots into poor and very dry soil, and sheltered from the east and north. We do not place much confidence in what is called acclimating, by gradually inuring and by raising successive generations from seed. Starving in poor dry soil, for one year, before putting out, is perhaps as good as 30 years' acclimating. Any plant from a hot climate, which will not endure the climate of Britain, in the first or second year of its introduction, will not either itself, or in any future generation of its offspring from seed, become hardier, or at least nothing like sufficiently hardy for this purpose. Indian cress, kidney beans, dahlias, and potatoes have been raised in this country from seeds saved here for many years, but it cannot be proved that they are in the slightest degree hardier than when they were first imported. — *Cond.*

ART. VII. Obituary.

DIED in March last, Mr. John Harding, Agricultural Bookseller, St. James's Street, an amiable man, and the first London bookseller who made a separate department of works on gardening, agriculture, field sports, and rural affairs in general. His extensive and valuable stock, it appears, (Part IV.), are to be sold by auction.

On Monday, April 2., Mr. Shepherd, of Sunbury, and on the same day, about the same hour, Mr. Andrews, of Vauxhall, both market gardeners, who have been for many years noted for bringing the earliest grapes to Covent Garden Market, and both eminent and extensive cultivators of grapes and pine apples. Both raised themselves from the condition of serving gardeners, to that of tradesmen of considerable property, and both are succeeded by healthy and vigorous widows and sons.

PART IV.

ADVERTISEMENTS CONNECTED WITH GARDENING AND
RURAL AFFAIRS.TO FLORISTS AND ADMIRERS OF THE
FINER FLOWERS.

H. DUNN respectfully announces to Florists and others, that he will have the honour to submit to them by Public Auction about the middle of the present Month, of which due notice will be given, all the truly valuable and well selected TULIPS of the late THOMAS ANDREWS, Esq., Coggeshall, Essex; and as the Collector's taste and judgment are so universally known, as well as that no expence has been spared in forming this collection, the Auctioneer feels a confidence in assuring the Public that it will be found when in bloom to answer the most sanguine expectations of those who may attend the Sale, there being many of the finest varieties exclusively in this Garden.

And in the following Month the equally fine collection of Ranunculuses, Geraniums, &c. &c.

N. B. On the Day of the Tulip Sale, and after the Tulips, a Single-horse Chaise, a very neat Four Wheel Pony Chaise, and an excellent Finger Organ, late the property of the same Gentleman.

Saffron Walden, 1st May, 1827.

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The Proprietor and Conductor of the Botanical Magazine, MR. SAMUEL CURTIS, of Glasenwood, near Coggeshall, Essex, also begs to inform those who wish to possess the former Series of this Work, that the whole, (containing upwards of 2700 coloured Plates) or any portion of it, may be had at his Warehouse at Prospect-Row, Walworth, or of the Publishers, and that for the convenience of Purchasers he has had them done up in neat Boards, so that the current Number and a Volume of the old Series can be delivered together Monthly, or as often as desired.

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THE
GARDENER'S MAGAZINE,

JULY, 1827.

PART I.

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ART. I. *History of the First Introduction of the Modern Style of laying out Grounds into Russia; with some Account of the Imperial Residences of Tzarsco Celo and Taurida.* By One of the IMPERIAL GARDENERS.

TZARSCO CELO was originally brought into notice by the Empress Catharine I., who built a small palace there, and gave it that name, which is derived from Tzar, imperial, and Celo, a spot; Imperial Spot or Hamlet. At twelve miles distance is another place, where the same Catharine built a small palace, called Crasnoi Celo, or Beautiful Spot. On the Empress Elizabeth coming to the throne she built the present palace, with every degree of extravagance of finery. All the ornaments, statues, and vases were gilt in leaf gold, on oil. The value in gold amounted to above a million of ducats. The front of the building is above 1200 feet long. The garden at that time was laid out in the Dutch taste, with straight walks, the trees all clipped in different forms, and the lateral walks lined with hedges of lime trees; the latter still exist, only that the trees are not clipped. After the death of Elizabeth, Catharine the Second ascended the throne. About the year 1768 Count Munchausen published a book in German, called the *Hausvater* (Father of a Family), the reading of which seemed to give Catharine a taste for modern gardening. She immediately ordered that no trees should be clipped in any of the imperial gardens, but that they should be left to nature. After this she told her architect, and gardener, that in making gardens they should endeavour to follow nature; but this they could neither feel nor comprehend; they at-

tempted to vary the straight line, by planting single trees on each side of the serpentine walks. This did not please; for though the Empress could not exactly direct them what they ought to do, yet she felt convinced in her own mind, that what they had done was not right. At a small distance from the garden there was a brook, of which the water meandered in a very pleasing style; before she left the country residence, which was about the first of September, she ordered a walk to be made on the side of the brook. This was completed, and in the spring of the year she went to see what had been done, and found they had made a walk on the side of the brook, but had kept it parallel with the brook, and had planted single trees at equal distances on each side of the walk. On her coming up to it she said, "No; this will not do; this is not what I wanted." On finding she could have nothing done to her mind, she determined to have a person from England to lay out her garden. John Busch, of Hackney, was the person who was engaged to come out to Russia for this purpose; he was preferred on account of speaking the German language. In the year 1771 he gave up his concerns at Hackney, with the nursery and foreign correspondence, to Messrs. Loddiges. In the year 1772 he commenced his first work, though not at Tzarsco Celo, but on a hill about five miles nearer town, called Pulkova. In 1774 the Empress paid her first visit to this place. On entering the garden, and seeing a shady gravel walk, which was planted on each side, and winding, she appeared struck with surprise, and said, "This is what I wanted." This walk led to a fine lawn, with gravel walks round it, which seemed to strike her still more forcibly, and she again said, "This is what I have long wished to have."

The following year the Tzarsco Gardens were given to the charge of John Busch, who carried on the work till the year 1789, when he left the service and went to England. His son, Joseph Busch, succeeded him, and went on with the work that was left unfinished, the garden not being finished during the reign of Catharine. The Emperor Paul, who succeeded Catharine, preferred straight walks and clipped trees. The late Emperor, Alexander the First, was fond of both styles. Clipped trees are still continued at Tzarsco, and other places. The Emperor, however, does not suffer any of the old trees to be touched, only such as have been planted by his own direction. Carriage roads being introduced intersecting the walks, make the gardens rather unpleasant to walk in, as one must always be on the look-out in case

of a carriage coming. Hence the Tzarsco Garden is become a park in a pleasure-ground, and not, as is usual, a pleasure-ground surrounded by a park.

There are a variety of good buildings in the gardens, particularly some designed and built by Charles Cameron, and a new front to a part of the palace (*fig. 103.*) by Guarangi.

103



The Emperor has enlarged these gardens considerably, and still continues, in a mixed style of old and modern art, to add and improve, and particularly in the park, wherein is built a dairy which the imperial family often visit during their residence at Tzarsco, and also two gates with lodges in the Gothic style. These and other buildings, with new roads and improvements that have been made, have added much to the beauty of the place since you saw it in 1813. In these gardens, the extent of which is about four miles in circumference, the keeping is equal if not superior to any in Europe, no expense being spared to have every thing in the best possible order.

The present improvements are executed by an architect who has succeeded Mr. Busch in this department, the latter being now employed in forming an entire new garden and park on Yelagen Island, situated in the Neva, about three miles from the palace of St. Petersburg, late the property of Count Orloff, but now belonging to the imperial family, and containing a beautiful palace surrounded with garden and park scenery.

The Palace and Gardens of Taurida (*fig. 104.*) contain nearly sixty acres. The natural surface of the ground previous to its being made into a garden was flat, and in many parts a bog; other parts were occupied as kitchen-gardens and artillery magazines; there were also many private buildings, all of which were cleared away for the purpose of making this garden, which was begun by Prince Potemkin in the year 1780, and was finished by the same prince. Afterwards it fell to the crown, and was a favourite retreat of Catharine the Second, particularly in spring, before Her Imperial Majesty went to her summer palace Tzarsco Celo, and likewise in the autumn, when the weather rendered it disagreeable to be so far from town.

The garden was planned and superintended by William Gould, from Lancashire, who displayed great judgment in forming the ponds, out of which he got sufficient materials to make the agreeable variety of swells and declivities which are seen in Taurida Gardens. The ponds are well supplied with water, which is brought upwards of twenty miles in a small canal, cut by Peter the First, to supply the fountains in the summer garden of Petersburg. The gardens of Taurida being adjacent to a large reservoir, a small conduit was cut from it to supply the ponds and cascades, after which it falls into a small rivulet, and is conveyed underground to the river Neva. The grounds consist of a pleasure-garden (*a a a*), small park, or enclosure for grazing (*b*), reserve ground, nurseries, &c. (*c c*), and forcing gardens (*d*). The pleasure-garden begins at the palace by walks leading round the pond, which forms the main body of water seen from the palace, and from thence round the park, which is fenced off on one side by a *cheval de frise*, and on the other side by a winding canal which separates the reserve grounds from the pleasure-garden. Over the canal are bridges, leading to the nursery and forcing garden. Some of these (*figs. 105. and 106.*) are of cast iron, ornamented with gilt ornaments, and considered handsome. The hot-houses, of which I have already sent you plans, are of great extent, and contain pines, vines, peaches, apricots, plums, cherries, and figs; there are also flower-houses, and a large orangery, with melon, water-melon, and pine pits. The nursery, or reserve ground, contains flowering shrubs which bear this climate, such as *Cytisus supinus*, *Sambucus racemosa*, *Genista tinctoria*, *Potentilla fruticosa*, *Syringa vulgaris*, *Robinia caragana*, &c., *Crataegus coccinea*, *Cotoneaster vulgaris*, *Hippophae rhamnoides*, *Lonicera tatarica*, *Cornus alba*, and various species of *Spiræa*.

The following is the general distribution of the Taurida Gardens: (*fig. 104.*)

- | | |
|--|--|
| 1. Palace. | 11. Entrance of the Park. |
| 2. Great Hall. | 12, 12, 12. Sunk Fence which surrounds the Garden, Park, and Nursery. |
| 3. Winter Garden, or Conservatory. | 13. Wooden Bridges. |
| 4. and 5. Iron Bridges in the Pleasure-Ground (<i>figs. 105. and 106.</i>) | 14. Entrance of the Water into the winding Canal which separates the Nursery from the Park and Pleasure-Grounds. |
| 6. Boat-House. | 15. Nursery. |
| 7. Entrance of the Water by the Conduit. | 16. Cherry-Shed. |
| 8. Small Canal separating the Pleasure-Ground from the Park. | 17. Green-house, Forcing and Flower Houses. |
| 9. Fence separating part of the Park from the Pleasure-Ground. | |
| 10. Park. | |

- | | |
|------------------------------------|-------------------------------------|
| 18. Gardener's House and Yard. | 21. Yard for receiving Rubbish, and |
| 19. Melon and Pine Pits. | open Shed for Garden Lights, &c. |
| 20. Iron Palisading separating the | 22. Cascades. |
| Forcing Garden from the Nursery. | |

18

104

21

12

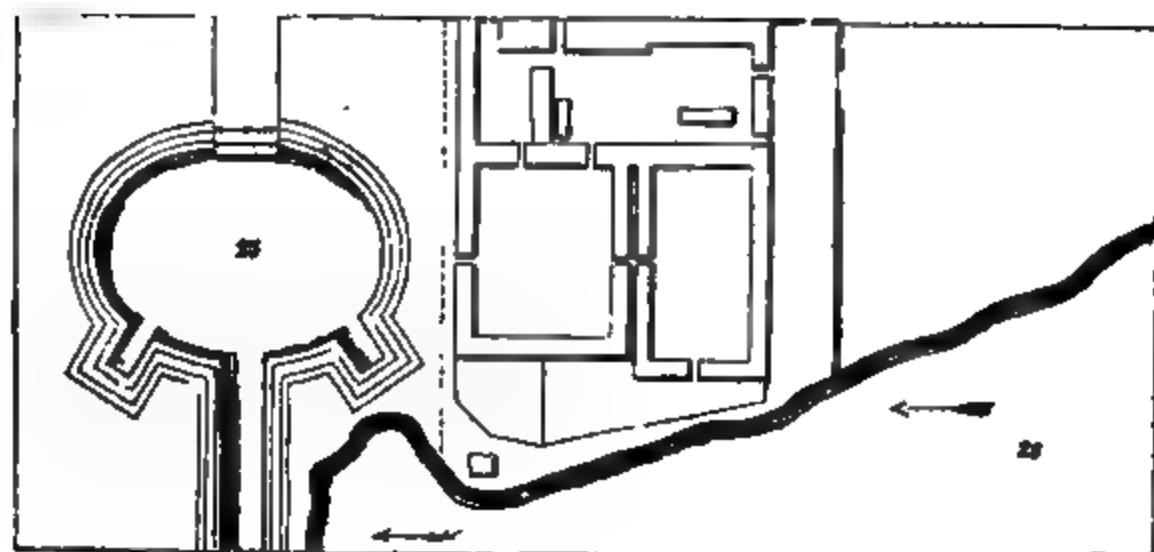
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23. Large Orangery.

24. Back Entrance to the Forcing Houses from the Street.

25. Basin of Water connected with the River.

26. River Neva.

105

27. Streets surrounding the Garden and Palace.

28. Small Rivulet which carries off the Water from both Cascades into the River.

106



29. Iron Bridge over the winding Canal in the Nursery.

30. Dry Ditch.

Some handsome elevations of the hot-houses, and other buildings, and some views of the palaces and grounds, procured for us by our correspondent with extraordinary pains and trouble, we are obliged to defer for the present.

ART. II. *On a Mode of preparing Strawberries for early forcing, as practised at Courtlands.* By **MR. WILLIAM MITCHINSON.**

Sir,

I COMMUNICATE to you a method of preparing strawberry plants for early forcing, which, as it is not practised by any other gardener, as far as I know, I presume to be quite new. Should you deem it worthy of a place in the *Gardener's Magazine*, I hope it may prove acceptable to those of your readers who are in the habit of forcing this delicious fruit through the gloomy months of our winter.

About the beginning or latter end of June, according to the forwardness of the season, take a sufficient number of pots, of about five inches in diameter, filled with very rich loam; plunge them to the brim in lines, four or five inches apart, in

the spaces between the rows of bearing plants in the open garden. But should the plants from which the stock of forcers are to be taken, be not in beds, but in continued rows, without alleys throughout the quarter, which is frequently the case, it will then be best to have two rows of pots plunged as above, in every other space, and the space left will serve to walk and gather the fruit, and occasionally water the plants, particularly those that are in pots, which, while they are in this situation (and this may be the case from two to four weeks,) will require regular attention as to watering, in order to forward them as much as possible. When the runners of the old plants make their appearance, and are just beginning to throw out roots, ~~it is then the proper time to look them over, being careful to~~ select the strongest and most promising; insert three of these into each pot, close round the sides of the pot, so as to give them all the room possible. They may be fastened down with hooks, such as are made use of in laying carnations; or a small stone, about the size of a walnut, may be laid upon each, which will answer the same purpose. The runners will generally establish themselves in a few days, the stone may then be taken off, and used for others which were not so forward: ~~this last is my own practice.~~ Great care must now be taken to divest the young plants of all future runners; ~~and as the plants managed in this way generally possess extraordinary vigour, they will throw out these rather numerous, which must be taken off regularly as they appear, the advantage of which will soon show itself in the increased vigour of the plants.~~ When these small pots are filled with roots, and before they become too much matted, it will be time to detach the runners from the old plants; ~~take them to a convenient place,~~ and pot them into pots of the usual size, say seven or eight inches in diameter, according to the sort of strawberry, being careful to turn them out without disturbing the roots; and then plunge them again to the brim in an open part of the garden, to remain till the season of forcing. Paying due attention to watering, stringing, &c. they will be in fine condition for that purpose, and greatly superior to those treated in the usual way. ①

I am, Sir, &c.

WILLIAM MITCHINSON.

Courtlands, near Exmouth, November 13. 1826.

ART. III. *On forcing Strawberries.* By Mr. WILLIAM NOTT,
Foreman of the Taunton Nursery.

TOWARDS the end of August, or the beginning of September, I take from the old plants of Keen's seedling, (which I have proved to be the best kind for forcing,) the young plants of that season, carefully taking them up with as much earth adhering to their roots as I possibly can. After planting them in pots four inches' diameter, I place them in an open, shady situation, where I let them remain until the middle of October, when I remove them into pots eight inches' diameter, placing them in a cool frame, and covering at night if frosty. In this frame I let them remain, with proper attention as to air and water, until the middle of January, when I remove them to the forcing pit, which should be prepared and managed as follows :

The pit most suitable for this purpose should be built with a four-inch brick wall, sunk eighteen inches below the surface, four feet high at back, two and a half feet in front, and four feet wide, with a trench eighteen inches wide, and the depth of the pit, both at back and front, for linings. The pit must be filled nearly to the top with new bark properly prepared. When the heat is risen, and the bark settled, a sufficient quantity of old bark should be placed upon it for the purpose of plunging the pots. This being done, and care taken not to have them more than six inches from the glass, very little air must be given until they begin to grow, when more must be admitted, but sparingly, taking care to give a sufficient quantity of water to keep them in a free growing state, and taking off all runners as soon as they appear. In this manner they must be treated until they produce their flower-stems, when they must have a larger proportion of air, in order to keep them from growing weak. When the flowers begin to expand as much air must be given as the weather will permit, and every attention must be paid as to keeping them supplied with plenty of water, and a heat from 65° to 70°, which must be kept up by repeated linings of hot stable dung both at back and front of the pit. The compost ~~I have found~~ to suit, them best, is three parts rich maiden loam, and one part well-rotted horse-dung, well mixed together, and used as coarse as possible, with five or six large pots herds in the bottom of each pot. If this work is begun at the above-mentioned time, and the rules here laid down strictly attended to, the operator will be able, early in April, to gather plenty of well-ripened fruit. When the plants have done bearing,

if the gardener has no plantation from which to procure plants for the following season, they may be turned out of the pots, and planted upon some rich ground in a shady situation, where, with plenty of water, if the season proves dry, they will make fine young plants by the following autumn.

Where this plan cannot be adopted, a good crop of fruit may be got, by taking, *early in January*, the strongest young plants, with plenty of earth adhering to their roots, and planting them in the fruiting pots, treating them as before directed from that time; but I give the preference to the before-mentioned season. If bark for the pit cannot be conveniently procured, stable dung will answer the purpose well enough.

I am, Sir, &c.

WILLIAM NOTT.

Taunton, December, 1826.

ART. IV. *Extract from a Communication on forcing Strawberries.* By Mr. ANDREW MORTON.

~~X~~ PLACE ~~my~~ pots for forcing in troughs two inches in depth, and seven in width. The nearer they are placed to the glass the better. The troughs ought to be well painted to make them water proof, and should at all times be kept full of water. Thus treated the plants will be found to thrive and swell their fruit much better than by any other method; while the pots being surrounded with water, creeping insects are prevented from getting to them, and injuring or eating the fruit. Kidney-beans treated in this way answer exceedingly well, grow much quicker, and are less subject to the red spider.

April 20. 1827.

ART. V. *On the Gardening and Botany of Spain.* By Don MARIANO LA GASCA, late Professor of Botany in the University of Madrid.

(Continued from Vol. I. p. 249.)

THE *botanical gardens* of the four special schools of pharmacy, founded in the present century at Madrid, Barcelona, Seville, and Santiago in Galicia, are chiefly intended to rear those plants used by the apothecaries, and in the demonstrations of the schools of botany and *materia medica*. The instruc-

tions given in those schools, all those who wish to obtain the degree of professors of pharmacy must attend during four years. There is in these establishments some collections of dried plants, a small cabinet of zoology and mineralogy, and libraries sufficiently well stocked with modern books of all the branches of science that throw any light on pharmacy. The gardens of these schools, though small, will, in my opinion, last longer than most other public gardens in Spain, because they are supported by funds which are independent of the public treasury, and which are regularly paid every year. These funds arise from the degrees and titles conferred in those schools; from the exclusive privilege of selling the *Pharmacopœia Hispana*, and some other books, which every apothecary in Spain must possess; and from the produce which is collected from the biennial visits made to the apothecaries' shops, each of the apothecaries being on these occasions obliged to pay 2*l.* sterling.

Botanic Gardens of Cadiz. — The special school of surgery and medicine of Cadiz, supported from the beginning of that establishment a botanical garden, almost as large as that which the Apothecaries' Society of London have at Chelsea. Contiguous to it there is another smaller garden, belonging to the Cadiz Economical Society, intended for the naturalisation of American plants of known utility, and for the propagation of the valuable insect of the cochineal, brought over from Oaxaca. The breed and propagation of this insect is principally entrusted to the care of the celebrated Don Antonio Cabrera, who has also made improvements in this branch. In this garden I saw cultivated in the open air a plant of *Ipomœa jalapa*, brought over alive from the country of its birth, and a species of downy *Cactus*, of the *Tuna* kind, which was brought over, with others, from Oaxaca with the cochineal. The first of these two gardens was intended for the instruction of the physicians of the royal marine; but in proportion as this marine has disappeared, the garden has likewise declined for want of funds, so that at present it possesses but few plants. However, I saw cultivated there in the open air some species of aloes and agaves, the *Dracœna Draco*, the *Pomaria glauca* of Cavanilles, *Parkinsonia aculeata*, some species of shrubby capsicum, the *Céstrum nocturnum*, *diurnum*, and *laurifolium*, which can hardly be kept alive in the green-houses of Madrid. In various private gardens, one of the varieties of the plantain tree, the *Musa sapientum* of Linnæus, is cultivated, and produces well-matured and exquisite fruit. The celebrated Mutis, who, as well as the patriarch of Roman agriculture, Columella, was

a native of Cadiz, received the first notions of botany in this school, under Dr. Castillejos, to whom he afterwards repaid the taste and inclination he inspired him with, by dedicating to him the genus *Castilleja*, which the son of Linnæus published. The library of this establishment possesses a valuable collection of books on natural history, among which are some that are not found in that of the botanical garden of Madrid.

Botanic Garden of Lucar de Barrameda. — The garden of botany and naturalisation established in San Lucar of Barrameda, in the year 1805, may be said to have existed in an expiring state ever since March, 1808, at which period the stupid populace, led by some fanatical and clerical demagogues, destroyed in an instant, under the specious veil of patriotism, all that had been collected there at an immense expense and toil; making the sacrifice in honour of Ferdinand and of the country, and in hatred of the favourite, Godoy, who had been its principal founder, and had declared himself its strenuous supporter and patron. Many of the exotic trees, which grew up again after the above catastrophe, are still preserved; but such is the neglected state into which this garden has fallen, that it has only one gardener, who is scarcely paid, and but moderately informed.

Botanic Garden of Alicante. — The board of commerce of Alicante, established in 1815, with the permission of government, a botanico-agricultural garden, the direction and professorship of which was given to Don Claudio Boutelon, who filled them till 1819, when he removed to Seville, to direct the cultivation of the Guadalquivir islands, granted to the company of this name. Since that period, the garden of Alicante began to be neglected, and I suppose it no longer exists.

Botanic Garden of Muchamiel. — In the town of Muchamiel, at two short leagues from Alicante, Prince Pio founded, at the beginning of the present century, a superb botanical garden, which was laid out according to the system of Linnæus, and which I visited in 1810. There were upwards of 2,000 American, African, and Asiatic plants, cultivated in unsheltered ground, and in the open air, as if they were in their native regions; these were, many species of the genera *Sálvia*, *Solánum*, *Céstrum*, *Cáctus*, *A'loe*, *Cotýledon*, *Mimósa*, *Pelargónium*, *Mesembryáanthemum*, the *Laúrus pérsea*, and the *Annóna cherimólia*. It was then tended with sufficient care, a botanical gardener having arrived from Valencia for the purpose, and it possessed a tolerably extensive library. This, and other botanical and pleasure gardens, which are found in

the south of Spain, are strong testimonies of the numerous and important acquisitions which might have been made by the agriculturists of Spain, if the political institutions had not uniformly endeavoured to impede the progress of the efforts of private individuals, desirous of benefiting by them. After the decease of its founder, the garden of Prince Pio commenced to decline.

Botanic Garden of Penacerrada. — But according to well-grounded information, not far from Muchamiel, in the town of Penacerrada, the Marquis of this name and of Beniel founded in 1814 another garden, which, it is asserted, is finer than that of Prince Pio, and in which he has collected not only the rarest plants cultivated in the gardens of the kingdoms of Valencia and Murcia, but likewise many others, which he had caused to be brought over from the gardens of France and Italy, and not a few from the island of Cuba, which were forwarded to him either alive, or in seed.

Botanic Garden of Valencia. — The botanical instructions in the University of Valencia, as forming part of the medical sciences, have been given there from time immemorial ; but I know not whether it possessed a botanical garden previous to the latter end of the last century, at which period the rector of that university, the Canon Don Vicente Blasco, began to form the one now existing, which is situated to the north-west of the city, at a short half mile from its walls, and on the banks of the river Turia. It comprises about eighteen fanegadas (27 acres) of land of excellent quality, and has a great abundance of water for irrigation. Its walks are planted with different varieties of orange, citron, lemon, and bergamot trees, the proceeds of which contribute towards its support. Many specimens of plants which were cultivated in the archiepiscopal garden of Puzol, presented by several individuals of that city and its environs, were transplanted there; it being also considerably augmented by the collections of seeds which were transmitted yearly from the botanical garden of Madrid. When we take the fine climate of Valencia into consideration, as well as its fertile soil, and the abundance of water it enjoys for irrigation, this garden ought to be one of the richest in Europe, especially in plants peculiar to warm climates; but far from improving, it has been decaying from its commencement; and this, simply because its professor of botany, who was the only scientific man in it, was under the immediate controul of the general assembly of the university, composed for the greater part of theologians and barristers, who in Spain, generally speaking, entertain a contempt for the natural

sciences, and of a rector, invariably a theologian and a clergyman. The splendid library of this university, the gift of the immortal Don Francisco Bayer, which abounded in books of natural history, became a prey to the flames, during the siege that Valencia suffered in the latter part of 1811, as did also the archiepiscopal library, which was, perhaps, the second in the nation.

Botanic Garden of Puzol.—The enlightened piety of His Grace Don Francisco Fabian and Fuero, archbishop of Valencia, was in the last century successfully exerted in the establishment of a botanical garden in the town of Puzol, three leagues distant from the city, which is the most beautiful I ever visited. About half of it was appropriated to the cultivation of trees of the families of *Hesperidéæ*, and *Annonáceæ*, and other exotics, and the other half for shrubs, small trees, bushes, and herbs, also exotic, and mostly American. Its circular or oval beds, were distributed, if I recollect rightly, in such a manner as to imitate the compartments of a genealogical tree, the trunk and branches of which formed the walks. The latter, paved with blue glazed tiles of Valencia, covered the trenches that conveyed the water for irrigation. There I saw, cultivated in the open air, for the first time, the *Sálvia tubífera*, *involucrâta*, *polystáchya*, *leonuroídes*, *tiliacifólia*, *leucántha*, *mexicana*, two species of *Tournefortia*, *Parkinsónia aculeáta*, the *Ruízia frá-grans* of Pavon, the *Erythrýna corallodéndron*, *Berbéris pin-náta*, the *Bignónia stáns*, the *Laúrus pérsea*, the *Annóna cheri-mólia*, the *Psídium pyríferum* and *pomíferum*, different species of *Mimósa*, among which there are two forming high and tufted trees, which, when I examined them in the herbarium, three years ago, I judged to be new. There also I saw the *Cérbera Thevétia* and *ováta*, *Bauhínia latifólia*, *Arália humílis*, *Sapíndus saponária*, *Caméllia japónica*, *Antholýza æthiópica*, *Arum colocásia*, *Amarýllis reginæ*, *Atamásko*, and another species. The *Cárica Papáya* yielded excellent fruit by guarding it only with a palm mat in the coolest days of winter. Different American species of *Ipomœa* and *Convólvulus*, the *Tropæolum május*, *minus*, and *peregrinum*, the *Maurándia sem-perflórens*, the *Dólichos lignósus*, and *Phaseólus Caracálla* climbed and adorned the trees, the walls, and the palings. I was never tired of admiring this delightful garden, in which, every time I visited it, I found some new attraction; and I still think that it will be difficult to find another offering such a surprising and fine *tout ensemble* of rarities in the open air.

But this garden, which in so small a compass was able to diffuse so much information, and from which issued the An-

nóna cherimólia, *Laúrus pérsea*, and *Aráchys hypogæ'a*, which are now cultivated in Valencia, though not so much as they ought to be, and others which are reared as ornamental plants, has just been destroyed, and turned into arable lands, by order of the present archbishop of Valencia; at least this is stated in the periodical work, entitled *Ocios de Españoles emigrados* (Leisure Hours of the Spanish Emigrants; London, Jan. 1825; Art. Barbarism associated to Fanaticism). What a contrast indeed the dark barbarism of the above archbishop, Simon Lopez, by thus destroying the precious collection of exotics treasured up, during the space of forty years, at so much expense, care, and toil, by his enlightened predecessors, offers to the diligent endeavours, which at the same time the distinguished Canon Cabrera is making to naturalise in the Peninsula the precious insect of the cochineal, and the plants which sustain it, and whatever exotics he can obtain!

Botanic Gardens of Barcelona. — Lastly, there is in Barcelona, besides the garden belonging to the college of pharmacy, another supported at the expense of the illustrious Board of Commerce of that city, the direction and professorship of which are intrusted to the doctor of medicine, Don Francisco Bahi, known by his translations of the *Elements of Botany* by Plenk, and by different valuable memoirs, which he published in the *Journal of Agriculture and Arts*, of which he was the editor, and which commenced in September, 1815, and ended towards the latter part of 1821.

This garden, founded in the last century, at the suggestions of the Marquis of Mina, was the property of the Marquis of Sentmanat, who ceded it to the College of Surgery of that city, for the erection of a botanical garden, causing an apartment for delivering lectures to be built at his own expense. But the professorship of botany in the said school of surgery having been suppressed in 1801, the garden was ceded to the Assembly of the Consulate, under whose auspices it continues till this day, though the University of Barcelona, erected by virtue of the regulations of public instruction decreed by the Cortes, has now ceased to exist. This garden is situated within the city walls, and occupies an extent of about twenty fanegadas (30 acres) of ground; it is fenced by a handsome iron railing on the eastern side, which borders on beautiful garden grounds, and by a high balustrade on the western side, which faces the land wall. The plants chiefly cultivated there, are those of known utility in agriculture and the arts, for the promotion of which the instructions given to the pupils is particularly directed. This garden was in correspondence

with some of the principal ones of France and Italy, and received every year from that of Madrid whatever seeds it requested to have sent. The practical school, that is the arrangement of the plants, is laid out according to the sexual system of Linnæus.

(To be continued.)

ART. VI. *Comparative Remarks on Limekilns, and the Burning of Lime, the Result of many Years' Experience of C. J. Stuart Menteath, Esq. on the Estate of Closeburn, in Dumfries-shire.* Communicated by Mr. MENTEATH.

Sir,

THE application of calcined lime to the soil is of so much importance in horticulture, as well as agriculture, that useful information on the subject cannot be otherwise than highly acceptable to the readers of the Gardener's Magazine. My experience in the quarrying and burning, or what may be called the manufacture, of calcined lime, has been very extensive. I have tried various kilns and plans of burning, and I have made an improvement on what I consider the best of these plans, to describe which is my principal object in sending you this paper. It is true you have described both Booker's kiln and my kiln in your valuable *Encyclopædia of Agriculture*; but as I have since made some improvements on my own invention, and as you have not given engravings of these kilns in the *Encyclopædia*, this communication will serve as an appendix to the subject of limekilns (§ 3589—3590.) in that work.

Lime will, in all cases, be most economically burned by fuel, which produces little or no smoke, because the necessary mixture of the fuel with the broken limestone renders it impossible to bring it in contact with a red heat, which may ignite the smoke. Dry fuel must also, in all cases, be more advantageous than moist fuel, because in the latter case a certain quantity of heat is lost in expelling the moisture in the form of vapour or smoke.

Booker's kiln (*fig. 107.*) is the best of all forms that have hitherto been brought into notice for burning lime with coke, or other dry smokeless fuel. The kiln of this description at Closeburn is built on the side of a bank; it is circular within, thirty-two feet high from the furnace, three feet diameter at top and bottom, and seven feet diameter at eighteen feet from the bottom; it has cast-iron doors to the fuel-cham-

107

ber (*fig. 108. a*) and ash-pit (*b*), and a cast-iron cap or cover (*fig. 107. c d*), which turns on a pivot, and rests on a curb ring fixed on the top of the masonry of the kiln (*d*). The use of this cover is to prevent the escape of more heat than is necessary to keep the fuel burning, for which last purpose the cover has only an opening at top (*d*), twelve inches in diameter. The principal advantage of this construction is, that very little heat is lost, and that lime may be burned with almost as little fuel in winter as in summer; another advantage, and one of considerable importance in a country sale, where a kiln is not worked sometimes for

108



two or three days together, is, that by closing the orifice (*d*) at top, and the furnace-doors (*fig. 108. a b*) below, the fire may be kept alive for four or five days. In the ordinary descriptions of kilns without covers, the fire is usually extinguished in twenty-four hours, especially in the winter season. In Booker's kiln, one measure of coke will burn four measures of limestone.

The fuel for the limekilns at Closeburn is brought from a distance of twenty-five miles, and it is found that one third of the expense of carriage is saved by coking it at the coal-pits. A measure of this coke burns as much lime as the same measure of coal; as when coal is used in the limekiln it may be said to be coked before it has much effect on the limestone. One of Booker's kilns, when coke is used, yields nearly three fourths of its contents of well-burned lime every day.

The Menteath Kiln.—Where lime is to be burned with coal or smoky fuel, a form has been adopted at Closeburn, which I have invented, and which, from a very extensive experience, I have proved to be much superior to those in common use. This kiln, which may be designated the Closeburn oval limekiln,

109

(*fig. 109.*) is built in a similar
tion to the other. It is oval
ground plan, both
top (*fig. 110.*) and
om (*fig. 111.*); with
s to the fuel-cham-
and ash-pit (*fig. 109.*
and an arched cover
he top (*fig. 112. g*),
h moves on small wheels, is
n off and on by wind-
s (*hh*), and has two small
ings, serving as chimneys,
he exit of the smoke (*ii*).
height of the kiln is thirty-
feet: the short diameter at
iel-chamber is twenty-two
as (*fig. 111.*); at the height of



twenty feet the short diameter has
gradually extended to five feet
(*fig. 109.*), and this dimension is
continued to the top, where the
oval is nine feet by five feet

112

(*fig. 110.*) As the
fuel-chamber to
this kiln is very
broad in propor-
tion to its depth,
three separate
doors or openings
become necessary
(*fig. 113.*), as well
as advantageous,
for more speedily
and easily drawing
out the lime.

In some cases,
instead of a mov-
able cover, a per-
manent roof of ma-
sonry (*fig. 114.*)
may be adopted.

n

This roof should
have proper openings to admit
the supply of lime and fuel, and these may be closed by

sliding shutters or hinged doors, while, in the roof, there should be a chimney for the escape of the smoke. It will readily be understood, that the use of a cover, whether fixed or movable, is chiefly to retain the heat; but where the cover is a fixed structure, and suffi-

ciently large, something will be gained by placing the fuel and limestones there, to be dried and heated before they are thrown into the kiln.

Three fifths of the contents of the Closeburn oval kiln may be drawn out every day, and when it is closed at top and bottom, the fire will not go out for five or six days.

I am, Sir, yours, &c.

Closeburn, January 2. 1827.

J. S. MENTEATH.

In the *Register of the Arts and Sciences* (vol. iv. p. 290.), a description and figure is given of Heathorn's combination of a limekiln and coke-oven, the object of which is to prepare quicklime and coke in the same kiln by a single operation; and the arrangements to effect it are at once so simple and so complete, as seemingly to preclude the capability of any material improvement. The economy of the process is likewise carried to the greatest possible degree; for that portion of the coal which is separated from it to form coke, is, by its combustion, rendered subservient to the burning of the limestone; and the coke, owing to its increased bulk, being nearly, if not quite, as valuable as coal in the market, the expense of burning is very much reduced.

This kiln and oven are delineated as raised on a flat surface (*fig.* 115.), the lime being raised by means of a jib and crane, though, like other kilns, it might be placed on the side of a bank for supply in the usual manner. Those who are interested in the subject may refer to the work from which this account is quoted; or to the patentee, Mr. Heathorn, Maidstone, or 40. Coleman Street, London. The kiln is now, and has for some time past been in full operation, at the patentee's lime-works at the former place. In districts where

coal is dear this will probably be found a valuable improvement; but with some descriptions of coal it is impracticable, and in all cases the labour will be considerably increased.

The side walls of this kiln (*a a*) are four feet thick; the iron bars at the bottom (*b b*) are drawn out when the kiln is to be emptied. The limestone is raised in a box (*d*), by means of a jib and crane (*e*); when raised the jib is swung round, and the lime-box tilted, by which the whole contents are thrown down the shaft. The coke ovens (*f f*) may be two, or a greater or less number, according to the magnitude of the works. They are supplied with coal through iron doors, which doors have a long and narrow horizontal opening in the upper part of them, to admit sufficient atmospheric air to produce combustion in the inflammable part of the coal. The flames thus produced pass into the lime shaft, and the flues (*g g*) are prevented from interfering with each other by a partition wall (*h*). When the kiln is charged the openings in front and beneath the iron bars (*i i*) are closed, as are certain openings made in the shaft (*k*) and in the coke ovens (*l*), at convenient distances, for the purpose of introducing iron bars as pokers, to accelerate the process. When the coal is reduced to coke, it is taken out by a long-handled iron hoe.

¶ In the *Mechanics' Magazine* (vol. vii. p. 177, 178.) are figures and a description of a Yorkshire limekiln (said to be a very good one), for burning lime with coal or coke. "Bottom part, where the lime is drawn out, a circle of about

eighteen inches' diameter, and widening gradually upwards (in the shape of an inverted cone, with the apex cut off) to about one half or one third of the whole depth, and then the remainder carried up perfectly cylindrical to the top, the diameter of the cylinder being about one third of the whole depth."

"In fixing on a place to build such a kiln, the side of a hill, near the rock to be burnt into lime, is always preferred: the workmen begin by excavating a large hole in the place where it is to be erected, of sufficient dimensions to bury the back part of it in the ground. In building up the kiln, there are two walls carried up; the space betwixt them is filled with small rubble, to keep in the heat, and next to the inner wall the kiln has a lining, about a foot or half a yard in width, of a slaty gritstone that will stand heat well: when the lining wants repairs or renewing, the wall behind it keeps the rest of the materials from falling in. A kiln, built according to the plan hereunto annexed, would cost about 25*l*." — *Cond.*

ART. VII. *On Melon Compost, and on the Influence of Soil on the Flowers of Hydrangea hortensis.* By W. R. Y.

I HAVE always used the compost to which the Dutch so strictly adhere; viz. one third strong hazel loam, one third scouring of ditches, and one third rotten dung, exposing the mixture two years to the influence of the summer and winter, to evaporate what noxious qualities may lurk in the earths; for it is well known, that in proportion to the degree of salt of iron, it will be proportionably sterile. I had often observed the leaves of my melons turn yellow; occasionally plants died for which I could not account: I suspected iron, as it pervades our district, to be the cause; but as the magnet would not take up any of the compost, my attention was diverted from that point. Similar results, in future seasons, again called my attention to it, and I added lime to correct the sulphate of iron, *if any*; but I lost my whole crop, I fancied, by the application of the lime. As during winter a red oxide filtered from the compost heap, I again felt certain of the presence of iron. I submitted the compost to the test of burning, and having by that means got rid of the superabundant carbon, the magnet immediately detected the iron. I changed my soil, and have never since lost any melon plants. The experiment proves, that the old test of the loadstone may

be defeated by the presence of other inherent matter; for though it was inactive over the cold soil, it acted in full force upon the soil, when, by roasting, it had discharged its gas.

Hydránga horténsis. — While a profitable experiment resulted on the one hand, a great amusement occurred on the other, with some green-house plants. I mixed the compost fresh from the ditch, with water, and found a precipitation of iron: I used the soil and water to a hydránga, a cutting from the common pink variety, and it so altered the colour to purple, as to form a *new* plant. I applied the same to the *Cánna* índica, and some other scarlet and blue plants, but obtained no apparent change of colour. I have always considered the brilliancy of colour to depend upon the air-bubbles under the epidermis of the petals, and was much surprised at not having effected a change in the *Cánna*, though the colour will change under strong rays of solar light. Pink and purple flowers may be more sensible of the influence of the gas, being secondary colours, than the red and blue, which are primary.

This district is upon freestone; the adjoining is limestone: upon the line of junction are the wild flowers indigenous to both soils, and it is wonderful to see the brilliancy of the colour of them upon the latter, in comparison of the former.

I do not know whether or not the above experiments are new to you or your readers; if new, they may afford security to operative melon growers, and amusement to florists. The subject is very interesting to myself and some other botanical friends here. I am no chemist, but if your correspondents can elicit any information from that science, I think they will add much to your valuable work.

Sheffield, May, 1826.

W. R. Y.

There is a fine opening in horticulture for any chemist of leisure, and practical acquaintance with the various operations of garden culture and management, to exert and distinguish himself. The good and the evil of pulverising soils, and exposing them to the atmosphere, and to different descriptions of weather, remains to be determined, no less than to be explained. It may excite surprise in some gardeners to be told that ridging of garden soil, in order to expose it more completely to the influence of either frost or sun, is frequently more injurious than useful; but we believe the assertion is consistent with facts, and with the experience of accurate observers. If bad qualities are exhaled, or oxidised by the aeration of soils, may not good qualities also escape or undergo

a change for the worse? Compression is, for certain soils, more valuable than expansion, and the effect may sometimes depend on mechanical, and sometimes on chemical, or other reasons. If Mr. Grisenthwaite, of Wells, has paid as much attention to horticulture as he seems to have done to agriculture, he is capable of throwing much light on this department of our art; and should he by any means see this, we invite him to become a correspondent. Even the speculations of such a man will be most interesting to many readers, and may prove truly valuable in the end, by leading practical men to study chemistry, to institute scientific experiments, and to acquire habits of accurate observation. One must have some favourite theory or hypothesis to establish or support as a motive to begin with, otherwise experiment would not be pursued with sufficient enthusiasm. Whatever becomes of the hypothesis, the facts remain, and are so much in addition to the previous stock of knowledge. — *Cond.*

ART. VIII. *On the Culture of the Mushroom in Hot-house Sheds.* By Mr. THOMAS FORREST, C.M.H.S. Gardener to W. L. Hughes, Esq. M.P., at Kimmel Park, near Abergeley, Denbighshire.

BEHIND the hot-houses here I have sheds, and along the back wall I grow the mushroom with very great success. All practical gardeners are well aware of the rapid decay of wooden shelves used for that purpose, owing to the very great steam that arises from the dung of a mushroom bed. I therefore build along the back wall of the shed, 'a thin wall of brick, four feet distant from it, which will make a bed four feet wide, and about eighteen inches or two feet high in front, and will afford plenty of mushrooms. [Cast-iron shelves are found to answer extremely well; one at the Earl of Grosvenor's, Eaton Hall, has given every satisfaction.] My mode of filling the brick beds is as follows: I lay on the bottom six inches of faggots, or any old wood that may be of little use, in case the dung be wet (for we are not able at all times to have things as they ought to be), to drain off any improper moisture that might be in the dung; I then fill the bed, within three inches of the top, with old linings of hot-beds, not too much exhausted; beating it down, at the same time, as firm as possible. I then take and lay on the top four or five inches of good horse-droppings, beating it well down also. The bed

may be then spawned, which obviates all that fear about the bed getting overheated which is so common among gardeners. A bed of this kind will keep a good moderate heat thrice the length of time another will, made wholly of new dung: consequently it will bear three times as long. Besides there are other advantages arising from this mode; you can make three beds for one, and with the same quantity of new dung. There are many small families, who have only two or three horses, which makes it difficult to have mushrooms, all owing to the mistaken notion, that the bed must be wholly composed of new droppings; because, by the time a sufficient quantity of these droppings are collected, one half of them has become useless.

I am, Sir, &c.

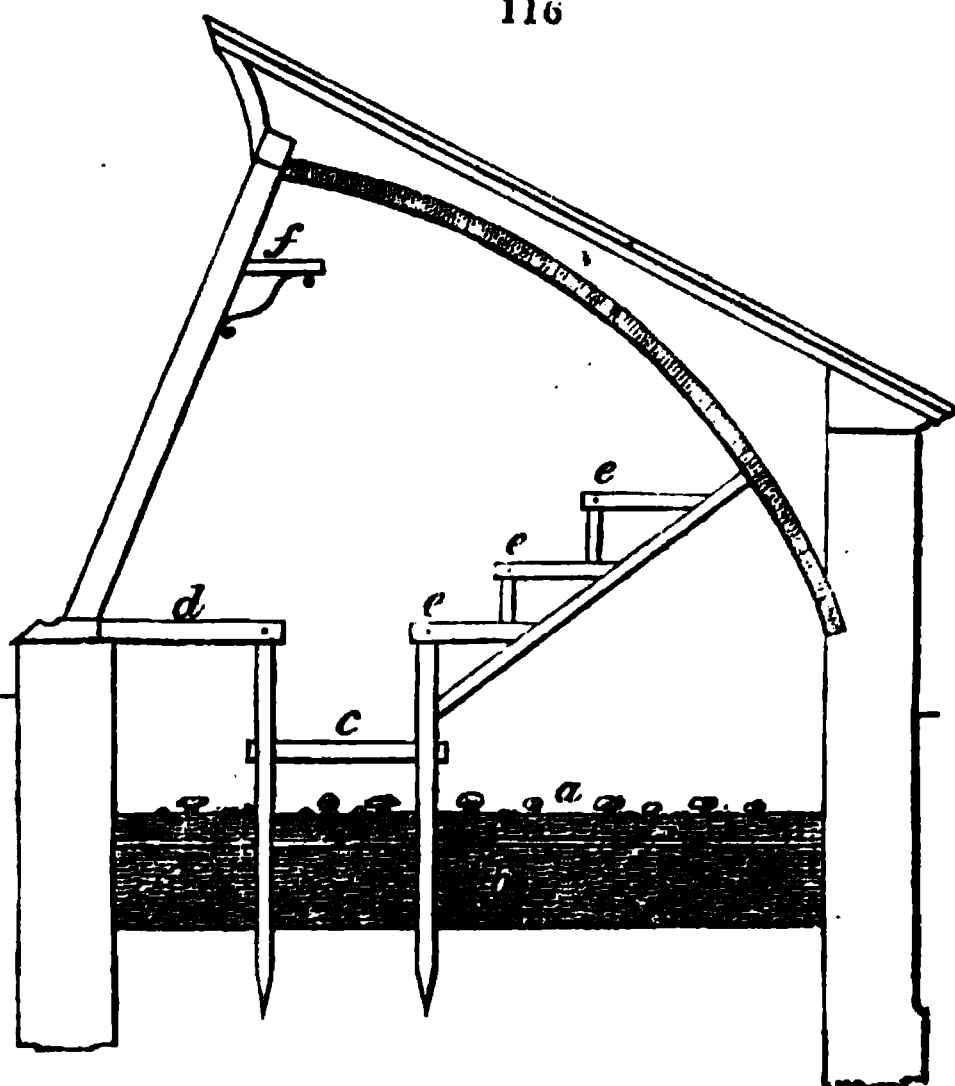
THOMAS FORREST.

Kinmel Park, February 8. 1826.

ART. IX. *Description of a Mode of growing Mushrooms on the Floor of a Green-house, as practised in the Neighbourhood of Vienna.* By MON. NAPOLEON BAUMAN, Junior, of Bollwiller, on the Upper Rhine.

Dear Sir,

DURING a stay of eleven months at Vienna, in 1825 and 1826, I had an opportunity of observing a very simple and economical method of growing mushrooms, which I have great pleasure in communicating to you, with a view of adding to the interesting and varied information contained in your valuable Magazine. The practice I am about to relate is so simple, that it



will be understood at once by a glance at the accompanying sketch (*fig. 116.*), where the mushrooms are represented rising through a stratum of earth (*a*), which, with a substratum of dung (*b*), occupies the entire floor of the house. The pathway (*c*) is supported from the floor by the posts which are rendered necessary at any rate for supporting the front shelf (*d*), and the shelves of the stage (*e e e*). Vines may be trained up the rafters, and there may or may not be a small shelf, or a bracket here and there for drooping plants (*f*). About Vienna, houses in which mushrooms are grown in this way are chiefly employed for prolonging the bloom of forced flowers and shrubs, such as roses, lilacs, bulbs, &c. The pots are set in saucers, to prevent any water from dropping on the mushrooms, and six inches of hay are spread over the latter, to keep them clean, and prevent the escape of heat. There is no flue, but at each end is a small brick German stove, which is lighted as often as may be necessary, to maintain a temperature during the night of from 45° to 50° . The glass is covered by shutters every night, and the floor of the house is from three to four feet under the external surface, which, with the covering of hay, is a great protection to the bed in which the mushrooms are grown.

This bed is made of fresh horse-droppings, strongly pressed, and, after it has lain eight days, it is covered with an inch of good earth, beaten to a firm state, and the spawn planted in it in little bits, about nine inches apart every way.

I have some other matters to communicate to you before I return home; and when I am there I hope to continue your constant reader, and occasional correspondent,

NAPOLEON BAUMAN.

Kew, November 24. 1826.

ART. X. *Account of some Experiments with Coal-Ashes and Salt as Manures.* By ALFRED.

Sir,

I OBSERVE (*Gard. Mag.* vol. i. p. 224.) that coal-ashes are considered injurious to fruit trees, and also to vegetables. I beg leave to say that I sowed, on the 15th of May last, three rows of Swedish turnips; No. 1. was manured with well rotted dung from an old melon bed, No. 2. with the tops of cabbage just coming into bloom, and No. 3. with coal-ashes. They vegetated about the same time, but the row manured

with the cabbage tops seemed to suffer most from drought, the season being hot and dry; they made little progress until the end of August, and in November they were a middling, or rather a bad crop. The row manured with the coal-ashes had all along a more luxuriant appearance than the other two. The rows were twenty yards in length, three feet apart, and fifteen inches from plant to plant in the row. I took them up in February; they weighed as follows:—No. 1. 78 lbs., No. 2. 88 lbs., and No. 3. 121 lbs., which, you will please to observe, is very much in favour of the coal-ashes.

I have for several years tried salt as a manure, but could never observe the least advantage from it. I tried it on onions, carrots, and turnips, at the rate of four ounces to the square yard. Having a number of large pear trees that were annually covered with blossom, but very seldom produced any fruit, I had the roots nearly laid bare and a portion of salt applied to them without the least effect. Another season I applied water with a very liberal hand, when coming into, and while the trees were in bloom, but to no purpose. Of one tree I raised the branches of one side considerably above the horizontal line, those of the other side I depressed in an equal degree; but neither plan had the slightest effect in producing fruit. At last I tried ringing, which has produced some fruit, but of a small, gritty, inferior kind, and the trees operated on have been very languid ever since. I intend this season to try salt as a top dressing on meadow land; and if the above remarks be worth your notice, I shall feel pleasure in stating the result of any further observations I may make.

Gardeners in general, and young ones in particular, are under lasting obligations to you for your *invaluable* hints on education. With every good wish for your success in so laudable an undertaking,

I am, Sir, &c.

March 9. 1827.

ALFRED.

ART. XI. *On the Propagation of the genera Cunninghamia and Araucária.* By Mr. STEWART MURRAY, C.M.H.S. Curator of the Botanic Garden at Glasgow.

Sir,

HAVING, with others, experienced the difficulty of obtaining handsome plants from cuttings of the genera *Pinus*, *Araucária*, &c., I have, as far as regards *Cunninghamia lanceolata*,

(fig. 117.), got over the difficulty in the manner:— In the were two plant from two to three high, struck from several years ago, although in very health, their top retained the appearance of a branch, which, being tied up to a stake, always seemed as if endeavouring to regain its horizontal position.

117

During the winter of 1825 I loosed the top of one from its stake, and fastened it down in quite a horizontal direction; in about six weeks afterwards a very vigorous shoot made its appearance from below the surface of the earth in the pot. When this shoot had attained the height of eight or nine inches, I cut away the old top entirely, and at this time the plant is nearly two feet high, furnished all round with three sets or tiers of regular horizontal branches. I may add that this plant flowered with us about six weeks ago, and was figured by Dr. Hooker. (*Botanical Magazine*, 2743.) One year after, I repeated the experiment upon my other plant, and with the very same success. I regret that want of materials to operate upon prevents me from trying the plan upon *Araucaria excelsa* or *imbricata* (fig. 118.); but if you should think the above worth inserting in your most interesting and useful Magazine, it may induce some of your numerous correspondents to try the operation upon these plants, and I should like much to learn (through the same channel) the result of such experiment.

118

I am, Sir, &c.

STEWART MURRAY.

Glasgow Botanic Garden,
February 28. 1827.

We have no doubt that every frond-bearing tree, such as all the species of *Pinus*, *Abies*, *Lárix*, *Cédrus*, &c., propagated and treated in the above manner, will produce as handsome, durable, and large trees, as if raised from seed on the spot, without transplanting, cutting off tap roots, &c. Notwithstanding various opinions on this subject, which deserve the highest respect, such as those of Mr. Knight in the *Transactions of the Royal Society*, of Dr. Yule, Mr. Sang, and others in the *Caledonian Horticultural Society's Memoirs*, and of various writers in the *Prussian Gardening Transactions*; and notwithstanding the echo of these opinions by many writers, and more especially of late by Mr. Cobbett, we are convinced from analogy, as well as observation, that there can be no natural or essential difference between a plant raised from a bud or cutting, and one raised from a seed; provided the parents be alike healthy, the conditions of growth similar, and the treatment proper. All trees are either such as do, or do not stole. A tree of any species which stoles, however originated, and however stunted in growth, if removed to a well prepared and suitable soil, and proper climate, aspect, and situation, planted there, and allowed to grow in any manner for three or four years, will, if then cut down to the surface, throw up shoots; any one of which selected and freed from the remainder, will produce in all respects as large, durable, and natural a tree, as if it had been raised on the same spot from seed. The same in respect to trees which do not stole, with this difference, that pegging down to the ground, or better still, depressing the shoots below the level of the collar, must be substituted for cutting down. We could add reasoning and offer proofs, but we would rather learn the opinion and experience of those of our readers who join physiological to practical knowledge.—*Cond.*

ART. XII. *On the Culture of the Garden Hyacinth, Hyacinthus orientális.* By Mr. ALEXANDER CAMPBELL, Gardener to the Comte de Vandes, at Bayswater.

Sir,

THE hyacinth is decidedly as fine an ornament to the garden in the spring as the *Chrysánthemum* is to the greenhouse in the autumn. The latter was as much neglected a few years back as the former is at present, a circumstance much to be regretted, as, few of our spring flowering plants better

repay our care and labour than the hyacinth. Though the bulbs are hardy and well adapted for this climate, yet it is a humiliating reflection that the florists of this country should be lookers on and suffer the market to be monopolised annually, without an effort on their part to come in competition with their (as yet) more successful rivals. We are very justly allowed to excel in every other branch of floriculture, and why not be on an equal footing, if not eclipse the Dutch, in the propagation of the hyacinth, which, with little care and trifling expense, may be brought to the highest perfection in Britain. Did the hyacinth possess the properties of the potatoe, we would have sufficient for our use and to spare, and I am persuaded that Holland, with all its advantages, would have long since yielded the palm to this country.

The hyacinth, like most ornamental flowers, does best in free rich soil; but wherever the onion will thrive, the former will flourish also. The ground should be trenched to the depth of eighteen inches, and a good dressing of rotten dung allowed. Some there are who hold that imported double hyacinths will degenerate in a few seasons to mere shadows of what they were in the first instance. If due precaution be not taken, all this, if not worse, will follow. When the bulbs are left in the beds or borders from one year's end to the other, when they are planted in damp stiff soil, or when their tops are lopped off in an undecayed state, the result is a degree of canker and rottenness in the heart of the bulb. But all this can be avoided, and I will not only hazard an opinion, that hyacinths will come perfectly double the second year after importation, but for a succession of years; and farther, that their offsets will flower in as great perfection, and as true to their kind, as the original bulbs. This I can affirm to be the case, from what has come within my own observation. I have bulbs now in flower, as perfect as they were five years ago, and not inferior to the Dutch imported ones: I plant them in the latter end of October, allowing one foot between the rows, six inches in the rows, and sink the bulbs one inch under the surface; in the beginning of December a layer of rotten dung is spread over the surface of the bed three inches thick, and the whole is left in that state till the bulbs have done flowering. When the leaves have partially faded, they are carefully taken up and dried in a shady situation, avoiding as much as possible to separate the leaves from the bulb until the latter is withered up to the bud. If the leaves be cut off in a green or imperfect state, the consequences will prove as injurious to the preservation of the hyacinth as to that of the onion. When the bulbs are dressed

they should be placed on shelves, in a dry situation, till the time of planting.

If beauty, variety, and fragrance be any recommendation to a flower, the hyacinth is rarely surpassed, consequently its appearance in the flower border cannot be too frequent. Let every lover of the profession give the above plan a fair trial, and let us stimulate one another to fresh exertions in the culture of this ornamental and truly deserving flower.

I am, Sir, yours, &c.,

ALEXANDER CAMPBELL.

Comte de Vandes' Garden, Bayswater,
April 13. 1827.

We can bear testimony to the excellence of Mr. Campbell's plan of culture, having frequently seen his bed in every stage of its progress for several years past. (See Vol. I. p. 349.) What greatly enhances the value of his practice is, that all the bulbs the first year were flowered in water in London. Every gardener knows that bulbs which have been so treated are much more difficult to preserve in a vigorous state, than such as have been flowered in earth.—*Cond.*

ART. XIII. *Note on Winter pruning the Vine.*
By Mr. MAIN.

IN the culture of the vine it is sometimes necessary to lay in shoots of great length, as is the general practice in pine stoves, or to fill the trellis in common vineries. In such cases much care is required that a regular and sufficient number of the fruit buds should break from top to bottom, and prevent the lower part of such shoots from being quite naked and barren. To avoid this let the pruner, after cutting the shoot to the required length, and finding, from the firm texture of the wood, that it is sufficiently ripened, proceed to thin the buds as follows; viz. leave the uppermost bud, which may be called 1, cut out 2 and 3, leave 4, and cut out 5 and 6, leaving 7, and displacing 8 and 9, and so on to the bottom of the shoot.

This thinning of the eyes will cause all those which are left to break regularly, and so alternating with each other, that the disposition, whether for the sake of superior fruit or facilitating the future management of the tree, will be found exactly what the manager would wish; he taking care to stop all the young shoots in their progress, immediately beyond the fruit, except the lowest, which must be trained to its full length for similar management the following year.

J. M.

PART II.

REVIEWS.

ART. I. 1. *Transactions of the Horticultural Society of London.* Vol. VI. Part IV.

(Continued from p. 334.)

2. *Transactions of the Horticultural Society of London.* Vol. VI. Part VI., which completes the Volume.

41. *Plan for obtaining a second Crop of Melons.* By Mr. Charles Harrison, F.H.S. Wortley Hall Gardens, Yorkshire. Read October 18. 1825.

WHEN the first crop of fruit is nearly gathered, cuttings are taken from the extremities of the shoots which show the most fruit; these are cut off close under the second advanced joint, or about the fifth leaf from the top; the two largest leaves at the bottom of the cutting are taken off, and thus prepared, are inserted in pots (twenty-fours), two in each pot, in light, rich soil, gently shaken down. After being watered, the pots are placed in a one-light frame, on a hot-bed previously prepared, and plunged therein in moderately dry soil, with which it is covered. The frame is kept close and shaded for a few days, and in a week the cuttings will have struck root. The old melon-plants, with the soil in which they grew, are now all cleared out of the frames, fresh soil to the depth of twelve inches put in, and the beds well lined with fresh dung. In ten days from the time of inserting the cuttings, they will be ready to plant out, which is done in the usual way. When the plants have pushed about fourteen inches, the end of each shoot is pinched off, to cause them to produce fresh runners; and the fruit which showed on the cuttings will swell rapidly, and in three weeks after replanting the beds, abundance of fine fruit may be expected. This way of getting a second crop is far more certain than either pruning back the old plants, or planting seedlings; because cuttings grow less luxuriantly, are less liable to casualties, and are much more prolific.

42. Description of American Fruits of which Trees have been transmitted to the Horticultural Society. By Mr. Michael Floy, C.M.H.S. Read May 17. 1825.

Thirty sorts of peaches, apples, and one pear, with the following names: —

Those marked (*) are described as excellent; and two sorts marked (†) will require artificial heat in England.

PEACHES.	PEACHES.	APPLES.
* Washington.	* Orange freestone.	* Early bough.
† Kennedy's lemon clingstone.	* Dr. Graham's do.	Honey greening.
* New York do.	* Mammoth.	* Early July pippin.
Blood, or claret, do.	Brevoort's seedling.	Large fall do.
* New York early do.	Serrated, or unique.	* Ortley.
† Hoyte's lemon do.	* George the Fourth.	* Æsopus Spitzemberg.
Pine apple do.	Brevoort's pound.	* American nonpareil.
Morris's red freestone.	Lady Ann Stuart's.	Swaar.
Morris's white do.	† Hoffman's.	Straat.
Philadelphia do.	* Aster's seedling.	* Van Dyne.
	* Sweet Water.	* Stuyvesant's pear.

43. On the Cultivation of Celeriac, as practised in Denmark and Germany. By Mr. Jens Peter Petersen. (See Vol. I. p. 269.) Communicated by W. Atkinson, Esq. F.H.S. Read March 7. 1826.

Celeriac requires a light, moist, and rich soil. It is essential that the dung be perfectly decomposed. For summer and autumn crops, sow the seed towards the end of February, very thin, on a moderate hot-bed, in good rich mould. When the plants appear, they must be inured as much as possible to the open air, and thinned so as to stand one inch apart from each other, and always kept moist. Transplant about the middle of May, or when the plants are four inches high; the roots will be fit for use in the end of July. For a winter crop, sow about the end of March, on a rich, warm border: when about an inch high, thin and keep them moist. In June they will be fit for transplanting. This is to be done on flat beds, four feet wide; four drills are drawn four inches deep; in these the plants, after some of the roots and tops of the leaves are cut off, are put in at the distance of one foot apart, watered, and kept so, if the weather be dry. When grown to half their size, which will be about the beginning of August, a small quantity of the mould round the root of each plant must be removed, taking care not to disturb or expose the main root. Cut off all the side roots and the large coarse leaves close to the plant, levelling the mould to each as this is performed; and when the whole is completed, the bed must

be sufficiently watered. In Denmark, the roots are generally taken out of the ground at the end of October, and preserved in sand, out of the reach of frost, in a dry house for winter use.

Celeriac may be considered as a bulbous or knob-rooted variety of celery, having a continual tendency to return to its natural form : hence, as a bulb, like all other bulbs, it will not attain a large size if much earthed up. As a celery, to be eatable, it requires to be blanched, and therefore must be earthed up to a certain extent, but the less the better ; and, as in a highly artificial state, and not a very likely plant to produce a fleshy mass or bulb, it requires to be aided in its unnatural efforts to concentrate its sap in a bulb, by removing part of the outer roots and side leaves, and supplying abundance of moisture and nutriment.

44. *On the Culture of the Nelumbium speciosum.* By Mr. A. Stewart, F.H.S. Read March 7. 1826.

The accidental leaking of a tub, in which a plant of this beautiful aquatic was placed, suggested the improvement in its culture, which this paper describes. The plant is kept in a pine stove, with little water, during winter ; but the tub is filled nearly to the brim, and kept so, while the plant is growing ; afterwards, when its leaves begin to raise themselves above the surface of the water, the water is made to rise as high as the leaves, and fall as low as the roots and soil, once every twenty-four hours, in imitation of tides, or the rise and fall of rivers. The mode in which Mr. Stewart effects this is, by slacking the upper hoop of the tub, by which means the water escapes slowly through the staves, so that being filled up every evening, the tub was generally emptied down to the earth in which the plant grew in the morning. This process is continued till the flowers and leaves die away, and the plant, as before noticed, is kept during winter almost dry. This treatment appears perfectly natural, or such as we may suppose takes place in the margins of rivers and lakes in a country subject to periodical rains, such as Egypt, and many parts of the East. The alternate action of the air and water seems to produce a greater excitement than the water alone, and thus throw the plant into flower.

45. *Description of a Pit for Winter and early Spring Forcing.* By Mr. A. Stewart, F.H.S.

A sunk-walled excavation (*fig. 119.*) three feet and a half wide, three feet deep at the back, and one foot nine inches in

front, and of any required length, is covered with thatched movable frames; which are tilted at pleasure by a notched prop. It is used as a kind of store-room for all culinary vegetables in leaf, which are

liable to be destroyed by frost; such as cauliflower, broccoli, lettuce, endive, &c. These, before the winter sets in, are taken up from the open ground with balls of earth, and embedded on a bottom layer of rich soil, filling up the vacancies between and among the stems with old bark or decayed leaves. Air is given on all occasions when it can be done with safety, and in severe frosts additional coverings of litter are put on. Vegetables keep better here than in dark sheds; the autumn crop of cauliflowers, for instance, can be so preserved till the end of January. The pit is also useful for raising salad herbs in the spring, and New Zealand spinach, vegetable marrow, and cucumbers, &c. in the summer.

This is a truly useful structure, which may be erected for a trifle, and which no good kitchen garden should be without. Care should be had to protect the back of the pit from frost by a bank of earth (*a*), to have the covering of reeds or thatch (*b*), of sufficient thickness, and the tilting piece (*c*) of sufficient length. Reed frames or roofs of this sort are advantageously used by some gardeners in the south of England, to protect late crops of broccoli, lettuce, endive, &c. in the open air. They are supported on short stakes, and on dry sunny days are lifted, and set up among the plants they cover, edgeways, and south and north, so as to admit the mid-day sun and air, and produce as little shade as possible: at night they are replaced. Mr.

Anderson of Cashiobury protects beds of endive in this way (*fig. 120.*), with perfect success.

46. *Account of the Growth of some Cedars of Lebanon at Hopetoun House.* By Mr. J. Smith, C.M.H.S.

The cedar of Lebanon increases in girth more rapidly than any other forest tree in the neighbourhood of Hopetoun House. The cedars there were planted in 1748, and in the year 1801, the largest measured ten feet in circumference, at three feet from the ground; in 1820, above thirteen feet, and in 1825, fourteen feet; which increase is comparatively much more than that of any other tree on the estate. The boles of these trees are short, for at no great distance from the ground, they separate into a number of large limbs, which rise almost perpendicularly to the top: this manner of growth, it may be observed, accounts for the short trunk increasing in size so fast, and so much more, than the surrounding trees which have a greater length of bole. But we happen to know, that the cedar of Lebanon is comparatively a quick grower, after it has arrived at a good age. In a fall of timber made at Moor Park, in Hertfordshire, not thirty years ago, the cedars were the largest of many other kinds felled at the same time; many of them containing ~~two~~ hundred and fifty cubic feet, were sold to the London builders for quartering, at the low price of half-a-crown per foot!

47. *On the Effects produced on Vegetation by the Combination of Heat and Moisture at different Periods of the Year.* By Mr. A. Gorrie, C.M.H.S.

Our esteemed correspondent, after paying a just tribute to the merits of Mr. Daniel, in this department of science, observes that the vegetating season, about Edinburgh, (Prof. Playfair, in *Trans. R. S. Edin.* 1800,) commences about the 20th of March, and ends about the 20th of October; that 40° is the lowest temperature at which corn will vegetate, and 56° the mean temperature of a good vegetating season; but that in the Carse of Gowrie, nearly half a degree farther north, a good vegetating season seldom occurs, and yet vegetation there is as forward as in the vicinity of Edinburgh. This, he adds, is a proof that the progress of vegetation is not dependent solely on temperature. The mean temperature of the vegetating season of the Carse of Gowrie, in 1823, was $50^{\circ} 7'$, and rain $21\frac{1}{2}$ inches; for 1824, $53^{\circ} 1'$, and rain $13\frac{2}{10}$ inches; for 1825, $54^{\circ} 6'$, and rain $10\frac{1}{2}$ inches. Mr. Gorrie states these facts with a view to excite attention to the subject, and suggests the idea of keeping similar registers in different parts of the island. As general results, it may be noted, that the wettest seasons are the coldest, and that if very dry seasons

are warmer and earlier, vegetation is less vigorous from a deficiency of moisture at the root. The progress of some plants, for example of most bulbs, seems to depend more on the supply of moisture than of heat. Plant in autumn a common garden hyacinth in the open ground, and another in a cold green-house or frame; leave the former to all the vicissitudes of the winter, and water the latter as green-house plants are generally watered; in April both will be in flower, but the one in the open air sooner by about a week. At least, this has come repeatedly under our observation in the neighbourhood of London.

48. *On the Cultivation of Plants in Moss.* By Mr. John Street, C.M.H.S. Biel, East Lothian.

From Mr. Street's success in growing plants in moss, (that is, the softer kinds collected from thick and moist woods,) it appears, that in our artificial treatment of them, we may often deviate widely from the laws of nature, and yet succeed in keeping plants not only in health, but also in considerable perfection. With the greatest ease we can grow small salad herbs on flannel saturated with water; bulbs and others in water only; epiphytes on dead trees; parasites on living ones; and some plants suspended in the air. Mr. Street recommends his practice as uniting the advantages of cleanliness, lightness, and safety in removal, whether from pot to pot, or from one place to another.

The mosses collected for this purpose are the several species of *Hypnum*, viz. the *purum*, *squarrosum*, and *Schrebéri*, with any other decayed vegetable substances which happen to be gathered up amongst them; sometimes a little sand or loam is added. The material is pressed closely into the pots, and the plants are put into them as if in mould. Cuttings of some kinds of free rooting plants strike well in moss. — The subject is new and amusing, and the way to discover whether, and to what ends, it may be permanently useful, is to push it as far as it will go while it is in hand. We hope Mr. Street will do this, and favour the world with the results of his experience.

49. *Description of a Pit and Stoves heated by Fire and Steam jointly.* By Mr. W. MacMurtrie, C.M.H.S.

The same communication, with some trifling verbal alterations, given in this Magazine (vol. i. p. 407.).

49. * *Account of some new Seedling Pears.* By T. A. Knight, Esq. F.R.S. Pres. H.S. &c.

These pears we have already noticed (*Gard. Mag.* vol. i. p. 341.).

50. *On the Cultivation of the Species and Varieties of Hedýchium.*

By Mr. Joseph Cooper, C.M.H.S. Botanic Gardener at Wentworth House, Yorkshire.

The Hedýchiums are a beautiful and fragrant family of reed-like plants from India. They are cultivated to great perfection at Wentworth House, and excite the admiration of botanists and others who call at this magnificent establishment. Mr. Cooper is very properly not altogether indifferent to the applause which will always be bestowed on distinguished merit, and very properly remarks, that "cultivators of plants ought not to be insensible to the observations of those who are competent to judge of their labours; seeing, that whatever is calculated to excite them to excel or to improve, must be very beneficial to them, and perhaps ultimately to the public at large." We visited these gardens in October 1826, and shall not repeat compliments to which Mr. Cooper must be familiarised, but only mention that we were agreeably surprised to find him as much *au fait* as to what was going on in the botanical world, as if he lived in the neighbourhood of London, a consequence resulting from his regular perusal of the principal botanical periodicals. We have also to thank Mr. Cooper for the suggestion of an improvement in the arrangement of the botanical department of this Magazine.

The Hedýchiums are done flowering in the month of October, from which time till the month of March Mr. Cooper keeps them in the hot-house, but gives them no water:—in the latter month, he shifts them into fresh pots, with a compost formed of rich strong loam, three parts, and one part of peat and rotten dung well mixed. The drainings in the bottom of the pots are covered with good dung; the roots are parted, and those chosen which are the strongest and fittest for flowering. Or little water is g at first, but a wards, when are advanced growth, they hardly have much. The se teen different : which are in collection hav division of a s for themselves they are placed on the surface of the pit, and in this situation some of them rise to the height of twelve feet, flowering mag-

nificently. They are known as *H. angustifolium*, *acuminatum*, *aurantiacum*, *carneum*, *coccineum*, *coronarium* (*fig. 121. b*), *elatum* (*a*), *flavescens*, *flavum* (*c*), *gardnerianum*, *glacum*, *longifolium*, *maximum*, *spicatum*, *thyrsiflorum*, *villosum*, *ellipticum*.

51. *On blacking Garden Walls.* By Mr. Charles Harrison, F.H.S.
Wortley Hall, Yorkshire.

Coal tar is used as the colouring matter, and to prevent it having a glossy, or shining surface, which would be prejudicial to tender leaves and shoots, Mr. Harrison adds one pint of linseed oil to each gallon of the tar. Two coats are necessary on very rough walls; and, when sufficiently dried, the trees are nailed up in their places. By this coat of colour, Mr. Harrison says, the wall acquires 10° of heat more than the walls not coloured, thus affording great assistance in maturing the buds upon fruit-bearing shoots, and preventing the harbouring of insects.—A contributor observes, that he has seen the loss of entire crops of melons and cucumbers, by coating the frames with tar, which we think worth mentioning to prevent a practice attended with so much benefit, from being indiscriminately applied. Lampblack, quicklime, a little copperas, and hot water, will form a blacking much cheaper; and we think, as applied to masonry, with all the advantages of tar, without any of its disadvantages.

52. *Account of a Plan for forcing Vines in Borders under Glass.*
By the Reverend Blakeley Cooper, A.M. Communicated by Sir George Thomas Staunton, Bart. F.H.S.

Mr. Cooper had for many years forced vines trained under glass cases resembling melon frames, with the aid of stable dung only. The border on which the vines were planted (*fig. 122. a*) was within the frame, and raised by means of cast-iron joists, and Welsh slates, over a cavity which, from time to time, was filled with hot dung, through openings in front (*b*).

By these simple means he raised abundant and early crops.

53. On *Glycine sinensis*, now *Wistéria Consequána*. By Joseph Sabine, Esq. F.R.S. and Sec. H.S. Read June 20. 1826.

We have frequently recommended this prince of twining shrubs (*fig. 123.*), which we agree with our indefatigable secretary in considering "one of the most beautiful that we possess," and "hope to see it not only introduced into the ornamental parts of every gentleman's garden, but also, decorating the walls of farm-houses, cottages, and entrance-lodges." It seems to be as hardy as the *Labúrnum*, and under the same circumstances of climate and situation, to come into flower nearly about the same time. The first plant was brought to England by Captain Robert Wellbank, in May 1816; and in the same month, but a few days later, another plant by Captain Richard Rawes. Both were obtained from the garden of Consequa, a Chinese merchant; and as Decandolle has removed this species of *Glycine* to Mr. Nuttall's genus *Wistéria*, we regret that Mr. Sabine did not propose to adopt a farther change, and consecrate the specific name to a Chinese horticulturist, to whom we are so much indebted. We should have preferred to have seen the genus dedicated to Consequa, who, with other eminent men of China, deserves to be commemorated at least as much as that drunken rogue Quass, (see *Stedman's Surinam*,) who first brought into notice the Bitter of Porter, *Quássia amára*; but as we should not feel ourselves justified in interfering with any generic name settled by so great a botanist as Decandolle, we content ourselves in the mean time with adopting *Consequána* as a specific name, and throwing out, for future use, the idea of dedicating a few plants to the memory of our Mandarin brethren. *Wistéria Consequána*, therefore, is the name adopted for *Glycine sinensis* in our *Hortus Britannicus*; and we hope, from the reasonableness of our alteration, that it will be universally adopted.

Mr. Sabine remarks, that a small second crop of flowers is frequently produced, and a third crop in August, and that the leaves are as beautiful in their way as the flowers. It is altogether a charming plant; and, thanks to our estimable young friend, Mr. Morris (p. 286.), we possess one. In the Fulham nursery, there is an imported plant of *W. Consequána*, which, from the suckers it is now sending up, is conjectured



to be grafted upon *W. floribunda*, said to be a still handsomer species than the above.

54. *On the Pæonia Moûtan, or Tree Pæony and its Varieties.* By Joseph Sabine, Esq. F.R.S. Sec. H.S.

From the information possessed by a correspondent on this subject, and in order to throw some light on points of the history of the *Moûtan*, on which the secretary is doubtful, we subjoin the following remarks: — “ Mr. S. is rightly informed as to the way of obtaining the *Moûtans* at Canton. They are not natives, nor are they cultivated there, but are annually received from the provinces of Nankin and Honan as presents to mandarins or merchants resident at Canton. It is also true, that but little dependence can be placed on the accounts given by some of the missionaries, as to the great number of species in China, though it is very probable they may possess many varieties. Indeed, from the concurrent testimony of two most respectable gentlemen, Messrs. Duncan and Arthur, (the former the medical attendant of the East India Company’s superintendents, and the latter the inspector of tea at Canton in 1794,) there is no doubt that there are many sorts in the northern provinces, which have not been seen at Canton. The former of these gentlemen was particularly engaged by the late Sir Joseph Banks, to procure the *Moûtan* for the royal garden at Kew, and succeeded in getting two or three single plants at different times, which he sent home. We believe the first was received at Kew in 1789, and one or two more were received in the succeeding years, but these never flowered in any perfection. In 1794, seven plants of various kinds were brought to England in the *Triton* East Indiaman, two for His Majesty, two for Sir Joseph Banks, and three for Gilbert Slater, Esq. of Low Layton, Essex; but that gentleman’s lamented death having happened before the arrival of the ship (end of September, 1794), the *Moûtans*, double camellias, &c. were sent, in a very shattered condition (the ship having been dismasted in the Channel), to the collection of George Hibbert, Esq. of Clapham. The others for Kew, &c. were delivered to Sir J. Banks’s order, as soon as the ship arrived at Gravesend. All these were introduced under the specific name of *suffruticosa*, and among them three or four varieties, distinguished chiefly by the colour of their flowers, as *houng*, red, *’su*, pink, *wong*, yellow, and *pack*, white. Those sent to Mr. Hibbert were the red, the pink, and the yellow; the first and last of which did not survive the disasters of the voyage. One of the Kew plants is said to have flowered in 1795, but there were certainly flowers in 1796 at both Kew and

Clapham. It is unnecessary here to add the account given of this highly valued tribe of plants by the nurserymen at Canton; it is even more extravagant than that given by the author of the *Mémoires sur la Chine*. Among other marvellous stories, they assert that there is a double blue, which is the most valuable of all, and only possessed by the emperor, and that there are some having one hundred petals, some one thousand! &c. The Chinese mode of propagation is only two,—by seeds, and by dividing the roots. Mr. Sabine advises those who may visit and wish to buy plants at Canton, to furnish themselves with drawings of the plants wanted; this is particularly necessary in regard to the plant we are now treating of, because the *I'xia coccinea* is called the Canton *Moítan*. Collecting by drawings was the plan adopted by the collector sent out by Mr. Slater. The next thing is having proper lists, with the English pronunciation of the Chinese names, and, which is better still, the Chinese character, if it can be had; and in case it should be of any use, we shall add a figure of the word *Moítan*, as written in Chinese." (fig. 124.)
—J. M.

124

The Tree Pæonies enumerated and described by Mr. Sabine, are,

- | | | |
|-------------------------------------|---------------------------------|------------------------------|
| 1. <i>Pæonia Moután</i> papaverácea | 4. <i>P. M. rósea semipléna</i> | 7. <i>P. M. cárnea pléna</i> |
| 2. <i>P. M. Bánksii</i> | 5. <i>P. M. rósea pléna</i> | 8. <i>P. M. álbida pléna</i> |
| 3. <i>P. M. Huméi</i> | 6. <i>P. M. Rawésii</i> | 9. <i>P. M. Annesléi</i> |

Some of these perfect their seeds, from which there is no doubt many new varieties may be obtained. They may also be propagated by cuttings; but layers, or parting the root, is perhaps the most successful way. Sometimes *P. M. papaverácea* is grafted on the roots of the common *Moítan*.

55. *Report on the Effect produced on certain Plants in the Garden of the Horticultural Society by the Frost which occurred during the Night of April 29. 1826.* By Mr. John Lindley, F.L.S. Assistant Secretary.

Some weeks of favourable weather had produced a general and vigorous vegetation, and a frost of unexpected severity showed in a remarkable manner the different capacities of plants for withstanding cold. A list is given of about eighty species which were variously affected, but from which no general conclusions can as yet be drawn. Plants from similar countries, and Mr. Lindley remarks, of "similar physiological structure," are very differently affected by frost. Perhaps,

however, the similarity of physiological structure may be only apparent; in the mean time, this list may afford data for future reference to the physiological enquirer. One useful fact the gardener may be reminded of by this communication, viz. that "all trees upon walls which had copings were perfectly protected, excepting those whose shoots projected beyond the perpendicular influence of the coping; under such circumstances the shoots of vines were quite cut off."

It is also worthy of notice, that the variegated varieties of *Acer campéstre* and *Aristotélia Macqui* were the only instances in which a variegated plant appeared to be more tender than its parent. It appears also, that the ovaria of the blossoms of fruit-trees may be destroyed, and at the same time no apparent injury be sustained by the petals and stamens, through which the cold must have penetrated. "It also appeared, especially with the pears, that the fecundated ovarium was more susceptible of cold than that which was unimpregnated." The reader will learn from this last fact, with what curious accuracy the observations were made.

56. *On the Propagation of Zámias.* By Mr. Francis Faldermann, C.M.H.S., Chief Gardener in the Imperial Botanic Garden at St. Petersburg.

The *Zámia* is a palm with a large scaly protuberance above the surface, from the centre of which the leaves spring. Destroy the centre, and buds and leaves will issue from the scales, which may thus be separated, and form so many distinct plants. The same thing has been done in this country with *Zámia*, *Cýcas*, and some bulbous genera, and is probably applicable to other palms, to many bulbs, and to fleshy-rooted plants as *Támus*, &c.

When the heart is destroyed, it is advisable to fill it with dry sand, to absorb moisture, stimulate the healing process, and prevent decay.

57. *Description of Stoves for the Growth of Melons and Cucumbers.* By Mr. John Haythorn, C.M.H.S. Gardener to Lord Middleton, F.H.S. at Wollaton Hall, near Nottingham.

Exactly the same sort of pits as those described by Mr. Haythorn in this Magazine (p. 279.).

58. *Notices respecting the Strawberries cultivated for the Market in Scotland.* By Mr. James Smith, C.M.H.S. Hopetoun House, near Edinburgh.

The consumption of strawberries in and around the city of Edinburgh, is computed at between 60,000 and 80,000 Scotch pints annually. The rent of market-garden ground varies

from 5*l.* to 15*l.* per annum. The sorts cultivated are the old scarlet, roseberry, Surinam, glazed pine, Chinese, round white Carolina, and the Hudson's Bay, or mulberry. The cultivation differs but little from that in private gardens, unless in partaking more of an agricultural character. The ground intended for strawberries is well dug or trenched, and liberally manured, seldom requiring any further dressing while the plants remain productive. The cultivators prefer spring to autumn planting, and never dig between the rows, as that is liable to injure the roots. The scarlet yields five or six crops before requiring to be renewed, the Surinam four, and others are of shorter duration. Irrigation, in dry seasons, is very serviceable where it can be practised.

59. *Upon the Cultivation of Fuchsias.* By Mr. James Smith, Gardener to William Pinchback, Esq. Camberwell Green.

An exact copy of this paper was sent us before or about the time it was sent to the Horticultural Society. The following is its substance. About the end of February or beginning of March, strike in the usual manner, from the youngest shoots, as many plants as may be wanted. After they are fit to pot off, put them in small sixties, then into large sixties, and while they are in the latter-sized pots, keep them in a gentle moist heat, till they are properly established; then remove them into the green-house, shifting them every three weeks or a month, as the pots fill with roots, till they are established in 24-sized pots, in which they are allowed to flower.

Nothing can surpass the beauty and regularity of the plants grown in this way. "I have now some of the *F. gracilis* (fig. 125. *a*) in full flower, from three and a half to five feet

high, with one straight stem, the branches hanging over and nearly covering the pot, and as the branches naturally shorten

towards the top of the plant, every flower is shown to the best advantage; whereas in the general way of growing them from an old stem, some of the shoots grow much stronger than others, and do not in general grow with sufficient vigour to flower; or if they do flower, it is partially, and all the neatness and regularity is lost, nor are the flowers near so large as those grown by the method I have followed. The *F. tenella* (*b*) is now (Sept. 1.) flowering in high perfection; *arboréscens* (*c*) and *excorticata* (*d*) may be treated in the same manner, and with equal success. The soil I have found them do best in is, equal parts of loam and bog, with about one fourth sand.

“The *F. gracilis* will do much better planted out in a border, than the *F. coccinea*, and, I believe, it will stand our winter equally as well, or better, being of a more woody nature. I have one now in full flower, growing in a border, three feet high, and bushy in proportion, that was rooted last spring. The situation in which it grows is rather shaded, *Fúchsias* generally not liking full exposure to the sun. No plants are more liable to be injured by the ‘Thrips and red spider.’”

60. *Notice of Vineries with arched hanging Trellises.* By Mr. W. Smith, Under Gardener in the Arboretum Department in the Garden of the Horticultural Society.

✕ The common practice in vineries, of training the trees from the front to the back, upon laths or wires fixed to the rafters under the whole of the glass roof, forms so impervious a shade to the floor and back wall of the house, as to render both these places almost useless for any other purpose. To get rid of this inconvenience, it occurred to Mr. Archibald Read, gardener at Balcarras, to confine the vines to the space immediately beneath each rafter; and in order to retain the same or an additional number of fruit-bearing shoots, he formed a kind of drop, or hanging trellis, by wires fixed to each side of the rafter, descending vertically, and attached to a slight wooden frame of the same width of the rafter, fixed from the front to the back wall, and depending from two feet at the front of the house, to five feet at the back part. Each rafter having such a frame, the vines are trained on each side of them, by which contrivance a greater surface of fruitful vines is obtained, and also a far greater share of light.

Different modifications of this plan have been adopted; one of the simplest is, a single surface of wires (*fig. 126. a*) suspended by iron rods. The judicious gardener will adopt wires or wood, a double or single trellis, and greater or less depth, as may best suit the particular circumstances of his case; he will not forget to allow himself head-room over the

path, and that it can never be desirable to have such trellises very deep, on account of the distance to which the lower part of the foliage would be removed from the glass. These

circumstances taken into consideration and acted on, hanging trellises may be considered as a real improvement in the construction of the vinery, and applicable also to the peach-house.

61. *Observations on the Qualities of newly raised Fruits exemplified in Plums.* By T. A. Knight, Esq. F.R.S. &c. and P.H.S.

The prevalent defect of seedling fruits, Mr. Knight considers to be the want of a sufficient quantity of saccharine matter; but he has found this to be less so in fruits raised from seeds of a wild variety which had been fecundated by a highly cultivated variety, than in fruits raised from the seeds of highly improved kinds not thus fecundated. The common sloe fertilised by the pollen of Coe's golden drop plum, produced fruits which contained a good deal of sugar.

62. *On the Application of Tobacco Water in the Destruction of Insects.* By Mr. Joseph Harrison, F.H.S.

The same proportions and mode of using as described in Mr. M'Laurin's paper. (*Gard. Mag.* vol. i. p. 390.)

63. *On the Cultivation of Nelumbiums.* By Joseph Clare, Esq.

N. speciosum has been seldom brought to flower in England. In the north of China it grows on the borders of rivers and lakes, or in such ponds as are of a size sufficient to allow the agitation of the winds on their surface, and thus prevent

their stagnation. The climate of the north of Italy is similar to that of the north of China, and it was there, in the neighbourhood, we believe, of Milan, that Mr. Clare tried the experiments, of which this paper communicates the result.

In Italy, in the spring of 1822, some seeds of *Nelumbium* were planted in a large tub, half filled with earth, covered with tiles, and then watered, which was changed every second day. The seeds came up well, but the plants were soon covered with confervæ, and rotted away. Seeds were then put in a large pot, and plunged in a small stone basin, in which there was a fountain always playing, and the water constantly agitated, from having to supply a large garden. Here the plants produced leaves two feet wide, abundance of flowers, and a great quantity of seeds. They were left every winter in the open air, and have since continued to bear abundantly. *N. luteum*, in the Botanic Garden of Pavia, lived from year to year but never flowered, till, the tub becoming leaky, it became necessary to turn on a perpetual supply of running water, soon after which the plant sent up flowers and ripened many seeds.

In England, *Nelumbium*s must have the protection of glass; but Mr. Clare thinks it "very possible, that at some future time, hybrids may be obtained from them, and our own beautiful *Nymphæa alba*, odorata, and cærulea, or others, which seed freely in this climate." In the south of Europe, he thinks, *Nelumbium*s may possibly become so common as that the seeds will be exposed for sale, as those of the Spanish chestnut.

This paper, in connection with that of Mr. Stewart on the same subject, shows the great difference to plants between stagnant water and water in a state of motion, and that the probable necessity of procuring this motion will ever render it difficult to cultivate in gardens plants of the sea.

64. *Notices of Communications to the Horticultural Society between January 1. 1823, and January 1. 1824, of which separate Accounts have not been published in the Transactions.*

Forced Roseberry Strawberries. — Mr. G. Meredew, gardener to C. Calvert, Esq., of Whitton, plants two runners in a pot early in July; the pots are placed in a shady situation till the end of the month; they are then plunged in an open quarter of the garden till the end of September, when they are transplanted, one plant in a pot; they are now set under a frame with a little bottom heat till the end of November, when they are taken into the pine stove, and ripen their fruit.

early in January. We saw Mr. Meredew's strawberries and other articles at Whitton, in May, 1826, and bear witness to their excellence.

X *To preserve the Golden Pippin and other Apples free from canker.*—John Williams, Esq., of Pitmaston, ~~believes, and to a certain extent has proved, that this may be done, by every~~ year pruning away as much of each shoot of young wood as is not perfectly ripened, ~~He has practised this for six years, and has now a fine young dwarf golden pippin tree, as perfectly free from canker as any new variety.~~ The best stock for the golden pippin he finds to be the Siberian crab, because, as the shoots of this crab cease to elongate after the month of August, the roots become less active in propelling the upward sap; hence the wood and buds of the grafts are more perfectly ripened in the autumn. We are very happy to learn the result of this experiment, believing as we do, that the canker in the golden pippin, or any other fruit-tree, has nothing at all to do with the age of the variety, and believing also that the golden pippin or any other variety, however old or diseased, may, by proper, or say the best, treatment, be reinvigorated and perpetuated in as good a state as it ever was, for an unlimited period. We have seen too many cankered trees of recently originated sorts, and a sufficient number of healthy golden pippins, to be able to be of a different opinion.

For washing the Branches of Fruit Trees for the purpose of destroying the Insects which harbour on them, John Braddick, Esq., mixes one pound of flour of brimstone in three gallons of gas liquor, adding soft soap to make the liquid adhesive. The mixture is made over a fire in March, and the trees completely washed about the same time.

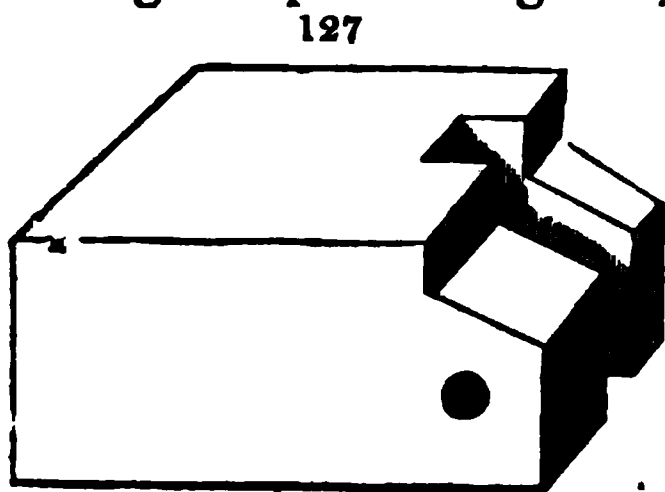
The influence of Salt on Vegetables was proved, by Mr. G. W. Johnson, to be a remarkable excess in the produce of seeds. Of the experiments referred to we have already given the result (p. 341.).

Dovetail grafting, by which is meant a mode of preparing the scion as carpenters prepare a tenon, and cutting the bark and soft wood of the stock in the manner of a dovetail groove for the reception of this tenon, is recommended for grafting the large branches of old trees, by Mr. E. Malone, gardener to George Foljambe, Esq., of Osberton House, in Nottinghamshire.

Orange and Lemon Trees in Italy, according to Mr. Shea, gardener to Lord Burghersh, at Florence, are manured with kilndried lupines, goat's dung, and stable manure; they are

much watered in summer, shifted every fourth or fifth year, and preserved during winter in sheds, the apertures of which are only closed during frosty weather. Should Mr. Shea see this, we request him to turn to p. 82., and see whether he can do any thing for us; we should like to hear from him, as we do from our Brussels correspondent, every two months.

Slate Troughs, instead of pots or boxes, or made water-tight for cisterns, have been contrived by Wm. Atkinson, Esq., one of our most scientific horticultural architects, and manufactured by Mr. John Walmsley, slate merchant of Belvedere Road, Waterloo Bridge. They cost 2s. 2d. per superficial foot, and may be made of any length not exceeding five feet. They are very durable, and may or may not be painted. We have lately seen slate boxes in the garden of Wm. Strut, Esq., at Derby, put together without screws in a very peculiar manner, and should like to see Mr. Mackintosh's orange-tub (Vol. I. p. 140.) manufactured of the same material. For dividing and partitioning off spaces in bark beds for creepers

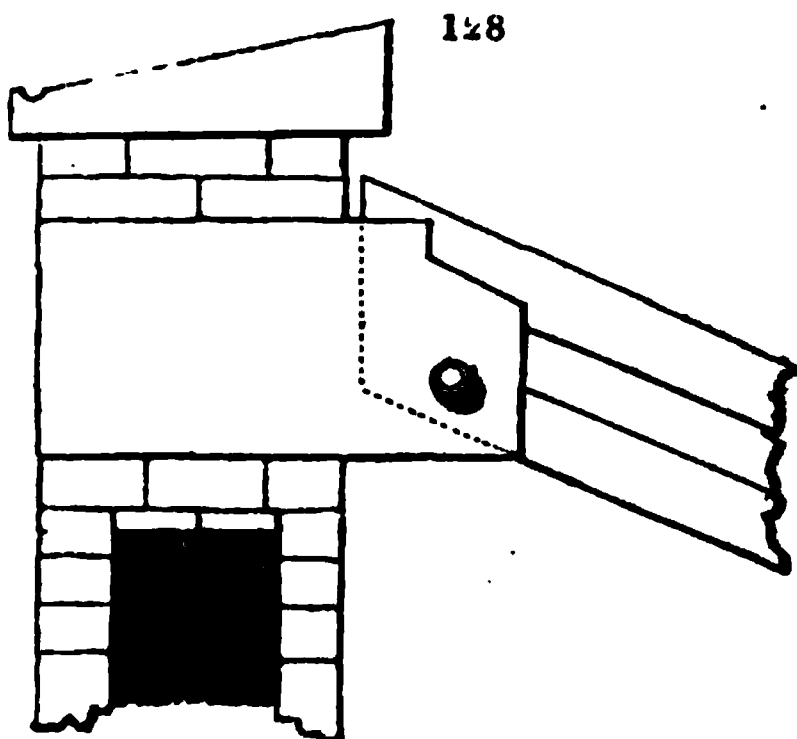


and other purposes, slates may also be advantageously applied.

Blocks of Stone (fig. 127.) are built into the garden walls of G. Gregory, Esq., at Rempstone, in Nottinghamshire, to which by pins (fig. 128.) the rafters of temporary forcing-

houses are attached. Along the front border, a row of stone or iron posts, not rising higher than the surface, may be permanently fixed, on which a temporary front wall or plate, for the lower ends of the rafters, may be placed. The garden walls for this arrangement should be flued, and the trees and other particulars suitably contrived.

Nuts are kept till nuts come again, by A. B. Lambert, Esq., in brown earthenware pans, buried deep in a dry part of the garden.



Pears, grafted on Medlar Stocks, are found by Capt. Peter Rainier, R. N., to become more juicy, and not inferior in flavour. They grow vigorously, fruit the second year, and bear abundantly. Some are much altered in appearance; the Jargonelle remains nearly green when ripe, and is a much shorter fruit than when produced from a Pear or Quince stock.

65. *Notice of the Siberian Bittersweet, a new and valuable Cyder Apple.* By Thomas Andrew Knight, Esq. F.R.S. P.H.S. &c.

Raised "from a seed of the Golden Harvey Apple, and pollen of the yellow Siberian Crab," and we have no doubt it is what it is said to be, "new and valuable." The following merits, however, are surely too great for practical credence: "The American bug wholly avoids the trees. I have frequently inserted grafts into stocks, upon which those insects abounded, and upon which they had continued to abound; but I never saw more than one instance in which they were found upon the graft, and then it was just above its junction with the stock, and three days afterwards they had entirely disappeared." We have not a doubt that this statement is perfectly correct in regard to the individual plants in question, but to infer from it that the Siberian bittersweet is much, or at all, less obnoxious to the attacks of the American bug than any other variety of apple, we think inconsistent with experience in regard to this insect, and we are sure that to leave such an inference open to be drawn, is calculated to deceive the amateur, and might injure the practical gardener. We could produce cases of both from papers of Mr. Knight's, (e. g. the pine-apple,) but we know that a hint to our excellent and much esteemed president will be sufficient. The truth is, that without that ardour and imagination which leads a man to push any favourite idea as far as it will go, Mr. Knight could never have accomplished for horticulture so much as he has done. It is impossible to be often original and right, without being sometimes extravagant and wrong.

66. *An Account of two Varieties of the Mango Fruit, which ripened in the Garden of the Earl Powis, at Walcot Hall, in Shropshire.* By Joseph Sabine, Esq. F.R.S. Sec. &c.

"I have to address the society upon the subject of the Mangoes which have lately been communicated to us by the Earl of Powis." "I feel called upon to acquaint the public, as speedily as possible, with the result of this very signal triumph of skill and perseverance over difficulties, which have

been hitherto considered insurmountable." — How we should have felt if two ripe Mangoes had been *communicated* to us we can hardly tell; we fear we should not have been able to work our minds up to the extraordinary difficulties of their culture, and could not therefore have appreciated the "very signal triumph" of surmounting them. What the cares and troubles of growing the Mangoes are, the secretary does not inform us, unless indeed we can gather them from the following passages: — "Two seedling plants were purchased from Mr. Lee, of Hammersmith, in 1818, and they ripened their fruit in September and October, 1826." — "It does not appear that the management under which these Mangoes were ripened possesses much peculiarity. The plants are in pots, plunged in the tan-pit of a good stove, which is maintained at a temperature of from 70° to 96°."

The tan-pit of a good stove, and seven years' patience, it would appear, are all that are necessary to ripen the Mango from seedling plants. The truth is, there is no more difficulty in ripening the Mango than in ripening the pine-apple or the orange; more patience may be required, but that is all, and even that may be greatly diminished in future by using grafted plants. Either we can imitate a tropical climate in our hot-houses, or we cannot; if we can, then we can grow and ripen every tropical fruit without any exception whatever. But it is only lately that the idea of growing any other tropical fruits than the pine-apple has been thought of: if it should, as we hope it will, become fashionable to grow them, we should soon have all the best fruits of the world ripened in our first-rate gardens. The Earl of Powis, a nobleman much attached to horticulture, and whose ingenious mode of heating hot-houses by hot water we shall afterwards notice, has the merit of showing how very easily this may be done; but it would be paying His Lordship and the public a poor compliment, to suppose that he and they approved of the immense importance that has been attached to the circumstance by the secretary. Whatever tends to approximate the lowest classes of society to those which are above them, must always be of incomparably more public benefit, than any thing which tends to render the very high still higher.

67. *An Account of Ten Varieties of Persian Melons.* By Mr. John Lindley, F.L.S. Assistant Secretary for the Garden. Read September 19. 1826.

Persian melons are distinguished by a thin and delicate skin, and tender, rich, and sweet juicy flesh; but their cultivation

is more difficult than that of the melons of Europe. They are grown in Persia in open fields, on beds richly manured with pigeon's dung, and irrigated by intervening channels supplied artificially. The most successful attempt at imitating this state of things "seems to be, to supply the plants abundantly with water at the roots, but to give them as little as possible over head, to combine copious ventilation and high temperature, by means of frequently renewed linings of hot dung; and to elevate each fruit a few inches above the soil, by means of a slate laid upon two bricks placed side by side."

Of the sorts described, a few are of doubtful merit; and "it has been lately understood from Mr. Willock, that some of the kinds now described are winter melons, which require keeping for some months before they are fit for table; a circumstance with which we were not made acquainted in sufficient time to ascertain which of the varieties now about to be mentioned are of that description." It would not be of much use, therefore, to repeat the names of fruits of which we do not even know the season of their ripening.

The Horticultural Society and the public are much indebted to Mr. Willock, the British envoy at the court of Persia, for his unceasing exertion in attempting to transfer several of the rare productions of that country to England.

68. *Report on new or remarkable esculent Vegetables, cultivated in the Garden of the Horticultural Society during the Year terminating on the 31st of March, 1826.*

Colvoe Tronchúda, Portugal or large-ribbed Borecole, Chou vert à larges côtes, *Fr.*, *Brássica costáta*, var. *Dec.*, introduced by Mr. Warre in 1821.—A plant of the cabbage kind, nearly two feet high, with a loose open head, large rugose leaves, and the costæ, côtes, or midribs, large, thick, and nearly white, branching into veins of the same colour, chiefly cultivated in the neighbourhood of Braganza. "The ribs of the outer and larger leaves, when divested of the thin green parts and well boiled, make a good dish, somewhat resembling sea-kale. The heart or middle of the plant is, however, the best for use; it is peculiarly delicate, tender, and agreeably flavoured, without any of the coarseness which often belongs to the common cabbage. The plants are too tender to endure the frosts of our climate; they cannot therefore be cultivated as winter greens. The young seedlings should be preserved under frames during winter, to be planted out at the same time as cauliflowers for an early summer crop, and the succession

must be kept up by spring and summer sowings. They require a well manured soil."

Dwarf Colive Tronchuda.—A variety of the above, eighteen inches high, and producing sprouts. It is conjectured that this variety is distinguished in Portugal by the name of Murciana. It seems to be the plant alluded to in the following letter; but of this we shall speak after the plants our correspondent has sent us have come to maturity:—

Sir,

At the request of Dr. Whately I send you some seeds of the Tranxuda, which is cultivated precisely like our summer cabbage, and by sowing the seed in the autumn they come in much about the same time. I have also forwarded you some plants raised this spring; and indeed, to have a succession, my gardener keeps sowing throughout the summer. It is an excellent vegetable from the first cutting to the after sprouting. It requires a good stiff soil, and I should advise the seed to be procured genuine from Portugal, which may easily be done through some wine-merchant's house, as it is apt to degenerate in this country. I have grown it very successfully, but found it decidedly better from the original seed Dr. W. brought over from Lisbon.

I am, Sir,

Chediston Hall, Halesworth,
May 16. 1827.

Yours faithfully,

ROBERT BAAS.

Vanack Cabbage.—An old variety, which has fallen into neglect. Mr. Torbron, gardener to the Countess of Bridgewater, at Ashridge, in Hertfordshire, has cultivated it since 1776, and keeps no other hearting cabbage in his garden. "By timely sowings it is always in season; it makes excellent spring coleworts, becomes a white-hearted cabbage very early, and pushes fine sprouts from the stump after the cabbages are cut. In quality it is inferior to none of the best cabbages." Seed shops.

Neapolitan Borecole, Chou de Naples fris  nain, *Fr.*, Cavolo torsolo ricciuto, *Ital.*—Attracts notice "more on account of its appearance than its utility," and "not to be put in competition with our Scotch kale."

Golden Potato of Peru, P pas Amar llas, *Aborig.*—When dressed, waxy, and of a peculiarly pleasant flavour; late, and an indifferent bearer.

Red Golden Potato.—In quality similar to the above.

Asparagus Potato. — Tubers oblong, slender, from seven to eight inches long, brownish white, or inclining to pale red; flesh pale, firm, waxy, and of superior flavour.

Mouse Potato. — In Germany known as the little Scotch potato. Dwarf and productive.

Pine-Apple or Cone Potato. — Tubers somewhat like the cone of a stone pine, after the scales have expanded by heat.

Spanish Dwarf Potato. — Only four inches high, hairy green leaves, a moderate bearer, and late in ripening.

Union Lettuce. — “An excellent summer cabbage lettuce, hearting well, of a good size, and remaining long, without running to seed.” Seed-shops.

Black-seeded Gotte (or Gau) Lettuce. — The smallest of all cabbage lettuces, except the tennis-ball. It has black seeds, and is of French origin.

Ice Lettuce of the United States. — Comes into use with the white Silesian, which it resembles.

Proliferous Leek. — Curious; the common leek viviparous.

Flanders Spinach. — “Far superior to the prickly or common winter spinach.” “Equally hardy, perhaps hardier.” The seeds, destitute of prickles, are sold by the French and Dutch seedsmen, and may be had from the principal British seed-dealers. Worth having.

New Zealand Spinach, Tetragonia expansa. — Coming into general use as a summer spinach. The seeds are now common in the seed-shops.

Sea Beet, Béta marítima. — The leaves an excellent substitute for spinach. The plants are perennial, and in a good soil will supply leaves for many years, from the middle of April till the plants begin to run, and through the whole summer and autumn, by cutting off the flowering stems as they arise. Readily increased by seeds, and also by dividing the roots. The Irish variety of this plant differs a little from the English variety.

A correspondent in the neighbourhood of Doncaster informs us, that he sows the common green beet three times a year, exactly in the same way as he does spinach, and has a perpetual supply of an excellent substitute for that vegetable. By cutting the leaves when quite young, they are as tender, even during the hottest period of summer, as those of the common spinach are in spring and autumn. A perennial spinach, however, whether from the *Béta marítima*, or *Chenopodium Bónus Hénricus*, is very desirable in every garden, as a resource in case of neglect or accident, and because the plants, being in perpetual maturity, and abundantly furnished with

proper sap, are, as it were, ever on the alert to take advantage of any circumstances favourable to vegetation.

German Rampion, our Tree Primrose, *Cænóthera* (*Oinos*, wine, and *thera*, a wild beast, a huntsman; the ancients said the roots had the smell of wine, and, given in drink, would calm the most ferocious animal, or allay intoxication; but it is very doubtful if our *Cænóthera* is the plant to which Theophrastus applied the name;) biennis, Biennial *Cænothera*.—The roots have a nutty flavour, but inferior to those of the rampion; they are used in Germany, and some parts of France, stewed, and raw in salads, with mustard, oil, salt, and pepper, like common celery. According to Lippold, in the *Verständigen Gärtners* (p. 282.), it has not been long in use as a culinary vegetable, but deserves to be better known. Seed-shops. May. Sandy soil, and shady situation.

Small Salad Lettuces. — The French, who pay exemplary attention to the composition of salads, cultivate the following sorts in drills, and cut them over for use when in the third or fourth leaf, as we do cresses and mustard. Spanish lettuce, endive-leaved lettuce, salad cabbage lettuce; or, in the French seed-shops, laitue épinarde, laitue chicorée, and laitue à couper.

Golden Cress. — Slower in growth, and of a yellower green than the common cress.

Garden Picridium, *Picridium vulgare*; *Cichoraceæ*. — A little low thistle or dandelion looking plant, cultivated in the Italian gardens for the same purpose as the salad lettuces.

Italian Corn Salad, *Valerianella eriocarpa*. — Milder in flavour, and coming earlier into use than the common corn salad; also, good, dressed in early spring as a spinach.

Blistered-leaved Sorrel, *Rumex Acetosa*, var. — Less acid than the common sorrel, and more slow in running to flower.

Mountain Sorrel, *Rumex Acetosa*, var. — More acid than the common sorrel, and rather later in running to flower.

Green Mountain Sorrel, *Rumex Acetosa*, var. — “Preferable to any of the other sorrels, from the greater size and abundance of its leaves, which possess much acidity.”

Small Nasturtium. — “For the sake of the seed pods to pickle, this kind is preferable.”

From the foregoing list, our readers will find a few things worth ordering from their seedsman; not perhaps altogether on account of their absolute value; but because in every extensive garden it is worth while trying every variety of the most useful sorts of vegetables and fruits, on the principle that some may be hit upon, peculiarly and eminently suited to the

particular circumstances of soil, situation, and climate ; for as, under certain circumstances, not always easily pointed out beforehand, some varieties degenerate, so, under others, certain varieties improve.

Part v., from which art. 64. to 68. are taken, concludes vol. vi., and is therefore accompanied by a preface. In this it is stated that the present volume "contains a large body of *original* horticultural information; such as it may be safely affirmed is not to be found in any other publication of the same period. Of so great importance, indeed, has it been esteemed by the public, both at home and abroad, that a very considerable portion of every foreign and domestic journal, in which the subject of horticulture is noticed, derives a large part, and, in some cases, almost the entire of its interest from extracts from these Transactions." Without in the slightest degree questioning the value of the original articles in the Horticultural Transactions, which is neither greater nor less than that of the original articles of the Gardener's Magazine, being, with the exception of the one third of the papers written by officers or servants of the Society, written by the same sort of persons, and, in several cases, by the same individuals, we may be allowed to state the superior claims of the Gardener's Magazine in point of "importance." In the first place the quantity of original matter in Part I. of the (21s.) volume of our work, completed by the present Number, is nearly equal to the entire matter of the (6l.) quarto volume of the Horticultural Transactions, independently of our original matter under the departments of Reviews and Intelligence. Secondly, though our articles are not ornamented by coloured plates, or engravings from copper or steel, yet they are illustrated by a greater number of engravings from wood, sufficiently intelligible for all useful purposes, than is the present or any former volume of the Horticultural Transactions.

To prove any superiority in the kind of information is not required ; the same persons, and sorts of persons, write in both works, and therefore we claim nothing more than equality. But it may be said that some papers in the Gardener's Magazine are controversial, and, though very suitable for a magazine, cannot be said to record horticultural science like the papers in the Horticultural Transactions. We allow this, but think we may very safely put against such papers in the Magazine, the long descriptions of Chrysanthemums, Pæonies, and some other such papers, by officers of the Society, in the Transactions. Both these sorts of papers are proper in their respective works.

Before we enter into the Review and the Intelligence departments of the Magazine, we shall say a word as to its utility, simply considered as consisting of Original Communications. Here then we have two points which determine the utility of the Magazine to be incomparably greater than that of the Transactions : first, the cheapness of the work, by which its sale is so much more extended that it has already readers in every part of the world ; secondly, the controversial papers alluded to, the object of which is, to correct or improve the conduct or condition of gardeners or others connected with gardening. No improvement in any art can be permanent, or truly valuable to society, which does not at the same time raise the character and promote the happiness of those by whom it is practised. That the Magazine has done good in this way will not be denied, and that the amount of this good will increase every year we know enough of the minds of gardeners to feel perfectly confident. As an example of the good we have already done, we have only to point to the Horticultural Society, which, by our papers in our first volume, we have saved from a system of extravagance, which would soon have ended in its ruin, and for which we have received the thanks of some of its earliest and most valuable members.

With respect to our Review department, and our Miscellaneous Intelligence, both are just so much good added to that which is already equal to the Horticultural Transactions.

As to the "some journals" which derive almost "the entire of their interest" from extracts from the Horticultural Transactions, the Gardener's Magazine of Germany and our Magazine are the only two journals in Europe in which the Horticultural Transactions are regularly reviewed. In the German Magazine the papers are quoted verbatim at length ; we limit ourselves to giving the essence, but we have frequently illustrated this essence by engravings, which has rendered it of more value than the original in its unabridged and unillustrated state. For instance, our review of vol. vi. part iii. is illustrated by eleven engravings, composed expressly for the purpose, and not one of which are given in the original papers. We firmly believe that in this way our Magazine has given a reputation to the Transactions which they never had before, and which, in some cases, they do not merit. We could refer to a case where a gentleman purchased a copy of part iii., with a view to more completely understanding Dr. Van Mons's paper on budding roses, which in the original has no engraving, but in our abridgment (p. 192.) three. A succeeding paper in the

same part, descriptive of certain hot-houses and pits in the Chiswick garden, assumes quite a different feature in our pages (201. 203.), by being illustrated by three engravings, from which any workman might erect the structures described. In short, every reader who is in possession of the *Horticultural Transactions*, vol. vi., and this Magazine, has only to continue the comparison which we have begun, to be convinced of the additional utility which we have given to the former work.

Perhaps we ought not to have said so much in our own favour; but we are unwilling that the Horticultural Society should monopolise every thing; and having, in the way we have mentioned, been the means of obtaining for their published *Transactions* a degree of credit to which, as compared with this Magazine, they are not entitled, we think it but fair to restore them to their natural level.

The number of the Fellows of the Society at the date of the preface to vol. iv. was 1520; to vol. v. 1815; to the present, vol. vi., 2044;—an immense power, which, however, being at the full tide of influence, must naturally be expected to decline.

After noticing the botanic expeditions of Mr. James M^cRae to the western coast of South America and the Sandwich Islands, and of Mr. David Douglas to the north-west coast of North America, it is stated “that no further expedition is at present contemplated by the Society.”

“The garden continues to flourish, and improve in its appearance in a degree which cannot but be highly satisfactory.” The garden may be highly satisfactory to those who know no better, and therefore think themselves bound to approve of what is done by those who ought to set the best example; but ask the most intelligent nurserymen and gentlemen’s gardeners their opinion of the plan of the garden. Ask Messrs. Knight, Loddiges, Malcolm, Mackay, Milne, and Sinclair. For our parts, we have always avowed our opinion that the plan of this garden was disgraceful to the Society, and to this country,—hitherto so celebrated in respect to design in gardening. The plan of a public garden, like that of the Horticultural Society, ought not to have been fixed on, before publicly inviting all the gardeners and garden-artists of the country, as suggested by our correspondent, “A Nurseryman,” to communicate their ideas on the subject. But what is called the Garden Committee were ambitious of appropriating to themselves the credit of being garden-designers as well as garden-directors, and it would be unjust to deprive them of what they have merited in either capacity. So bad a

plan could not have been produced without extraordinary pains and trouble; and no man, or class of men, likes to work hard without being paid in some way or other. We have paid our share in kind, and should not mind a second subscription, if we thought it would bring forward some one of them to defend the plan, and point out its superiority to what we have suggested (p. 359.); but however anxious some nurserymen may be to get seeds or plants from the garden, we have never heard of one of them who would acknowledge having had any thing to do with its plan. All we wish is, to pull it to pieces, and lay out the ground anew; but, if we cannot attain this, we shall at least prevent it from being in any part of the world considered as approved of by British gardeners, and save other societies from the misfortune of adopting it as a model.

ART. II. *Report of the Garden Committee of the Horticultural Society of London on the Formation and Progress of the Garden.* March 31. 1827. 4to. pp. 16.

PROGRESS has been made in procuring fruit-bearing plants, in ascertaining the correctness of their nomenclature, consolidating their synonyms, and describing their varieties. The same as to culinary vegetables. "Additions, wherever possible, have been made to the hardy trees and shrubs, not only by the acquisition of species and varieties not before in the garden, but by the acclimatising of plants hitherto considered too tender or valuable to be risked to exposure." (p. 381.)

A catalogue of the fruit-trees in the garden has been published (see p. 208.). "It is now proposed to commence the preparation for the press, of a similar catalogue of the hardy trees and shrubs in the arboretum, which will probably be completed after the close of the ensuing summer. The catalogue of esculent vegetables is also in a state of forwardness, and will be published as soon as shall be found practicable." We trust these catalogues will prove something better than the one on fruit-trees (p. 208.), which is really unworthy of the Society. Nothing can be easier or more useful than an arrangement founded on affinity, adopting, as a principle of affinity, either the uses to which the culinary vegetables are applicable, their affinities in regard to culture, or their natural affinities. As to the trees, the natural system is alone applicable to them; it is applicable also to the fruits, and possibly, for we have not considered the thing in detail, it may be

applicable to the culinary vegetables. At all events, let us have no more A B C arrangements; or, if we have, let a sufficient reason, or a reason open to argument, be given. We make these remarks with a view to the credit of the Horticultural Society, and of the times and the country in which we live.

The garden has received various additions from correspondents in every part of the world; among others, *Camellia reticulata*, a superb species, with large reticulate petals, from China; *Azalea indica phoenicea*, a new splendid variety with purple flowers, from the same country.

“But the greatest accession to the garden, consists of hardy North-west American plants from Columbia, by Mr. David Douglas.” Among these are the following very rare species: *Gaultheria Shallon*, *Ribes sanguineum*, and some other species, *Arbutus tomentosa* and *laurifolia*, *Rubus spectabilis*, *Berberis Aquifolium* and *nervosa*. Most of these are gems of the first rarity. “Many valuable herbaceous plants have also been received from the same quarter.” We hope Mr. Prince, our old friend Mr. Cleghorn, or Mr. Hogg, of New York, will present us with some of them; and we should not be sorry if Mr. Prince would add a male plant of *Maclura*, which propagates by cuttings of the roots, as fast as sea-kale.

“Numerous and important presents have been made to the friends of the Society in all countries;” 7120 articles within the year. Distributed during the year, under the orders of the Garden Committee, 4048 articles, independently of “the supplies of cuttings, grafts, plants, and seeds, which are from time to time sent to the house of the Society, for the use of the members generally, who may apply for the same.” These articles consist of whatever is in sufficient abundance in the garden, or likely to be of use or interest.

Visitors to the garden last year, 4740; the year before, 4706: a satisfactory proof of the steadiness of horticultural feeling in the public.

The number of *labourers* (gardeners), and clerks, in the garden have been diminished, in order to reduce the expense. The number of annual subscribers to the garden “has materially increased,” partly by the election of “new fellows, and partly by some of those who belonged to the Society previously to the formation of the garden, having concurred in the annual payment.”

Appendix, No. 1. Rules and Regulations for the sale of Fruit and Vegetables from the Garden of the Society; the essence of which is, — Send or call in Regent Street the day

before you wish to receive them. — *App. 2.* List of Subscribers to the formation of the Garden, since April, 1826; the number 40, and amount nearly 500*l.* — *App. 3.* Regulations as to the privileges acquired by subscriptions to the Garden. These we shall insert, in order to give the garden every chance, notwithstanding our entire opposition to its plan, and determination to use every fair means to expose its defects to the contemporary world, and to posterity.

“ 1. Subscribers of one guinea annually to the maintenance of the Garden (or those who have compounded for the same), are entitled to make application to the Garden Committee for cuttings of fruit-trees, plants of strawberries, seeds of new esculents, and such ornamental plants as can be propagated for general distribution.

“ N.B. The annual subscriptions of all the fellows elected since the 1st of May, 1822, includes the above subscription of one guinea to the Garden. The payment of the subscription is voluntary with the Fellows elected prior to that date.

“ 2. Subscribers of 10*l.* or upwards to the formation of the Garden, are entitled to the same privileges as the foregoing, with the additional power of issuing tickets for the admission of visitors to the Garden.

“ 3. Subscribers both of 10*l.* or upwards to the formation of the Garden, and also of one guinea annually to its maintenance, have all the above privileges, with the right, in addition, of making application to the Garden Committee for all such plants as cannot be propagated for general distribution.

“ 4. Members who contribute plants or seeds to the Garden, without being subscribers, have also a right of making application to the Garden Committee, who, in such cases, judge of their claim by the extent of their contributions. Contributions made by subscribers, increase their claims on the Committee, in proportion to the extent of their donations.

“ It is particularly necessary to observe, that no applications can be laid before the Garden Committee, in which the objects desired are not clearly and specifically mentioned. This regulation will hereafter be more positively enforced, in consequence of the publication of the catalogue of fruits in the Garden, and of the various Reports that have from time to time been printed in the Transactions.”

App. 4. Garden Committee: T. A. Knight, Esq., Pres., E. Barnard, Esq., J. Elliot, Esq., R. H. Jenkison, Esq., Mr. G. Loddiges, J. Sabine, Esq., Alexander Comte de Vandes, Mr. H. Ronalds, Mr. S. Brooks.

The following Reports respecting the Garden have been previously published: for 1823, with a plan, 5*s.*; 1824, 2*s.* 6*d.*; 1825, 2*s.* 6*d.*; 1826, with a plan of the arboretum, 5*s.*

On the whole, we are better pleased with this Report than with any of the preceding ones. It is free from the lists of rules and regulations (Vol. I. p. 314.) which have given so much offence; and though the absurdity is still retained of calling the workmen in the garden, labourers, (as if they did not become entitled to the appellation of gardeners till after being

in the Chiswick Garden,) while one of the garden regulations (reg. 2. Vol. I. p. 314.) is, that no persons can be admitted to work there, who have not previously been "educated as gardeners;" yet we are not again informed that "the committee have again to repeat, what they have once before observed, that if the plan of the garden were again to be arranged, the present would probably be adopted by all who are acquainted with its details;" that is to say, by those who made it, and those who work in it. Had the plan been generally satisfactory, the idea of making such an observation would never have occurred.

ART. III. *Verhandlungen des Vereins, &c. Transactions of the Society for the Advancement of Gardening in the Prussian States.*
Part I.

(Continued from Vol. I. p. 512.)

A PRESSURE of other matter, and particularly our protracted review of *Slaney on Rural Expenditure*, has prevented us from going on regularly with this work, which will in future occupy a part of every Number.

27. *Proposal of Dr. Crantz for the general Culture of Berry-bearing Trees, and Apple Trees, with an Account of some Experiments made with their Fruit in respect to their affording Spirituous Liquors.*

28. *Opinion of the Committee on these Proposals.*

The berry-bearing fruits alluded to by Dr. Crantz are the cherry, gean, and the different species of *sórbus*; these and different species of *prúnus* he would plant in all such situations as would not produce productive apple trees; the latter he would plant in all good soils.

Six experiments are related, showing the comparative quantities of spirit obtained from apples, cherries, *sórbus* various species, malt, and potatoes; from which the Committee conclude, that it can never be worth while to grow either berries or apples with a view to the distillation of spirit, but that potatoes may be very profitably grown for that purpose, and often more so than corn; and that the principal drink to which apples are applicable is cider.

29. *On the Classification of Fruits.* By Mr. Counsellor Burckhardt.

When it is considered that the fruits of no two seedling fruit-bearing trees ever were, or ever will be, exactly alike; and that new sorts raised from seed are continually being

introduced into culture, in Germany as well as in England, the difficulties of this subject may easily be conceived. It is easy to class, or throw into groups, any given number of apples or pears; but, having done this, to take any one sort from the group, and to be able to recognise it under any circumstances in which it may be found in a fruit-room or orchard, is a matter of such difficulty, that we have little hesitation in stating it to be impracticable. Fruits of any one particular variety of apple, for example, are liable to so many variations in size, colour, shape, flavour, time of ripening, and of keeping, from circumstances of culture, situation, and season, that if any one of these properties were to be taken as a foundation for classification, there would be no end to the number of sorts that might be produced from a single tree. To know or describe any one variety, therefore, it is necessary not only to be acquainted with the fruit in all its different stages, but with the tree in all its different states of growth, from budding to setting the fruit, and from infancy to maturity. In fact, to know any one fruit, it is necessary to know all the circumstances connected with it, and the tree on which it grows. That it is practicable to model, figure, and describe a number of fruits that have strongly marked characters, so as they may be known by those who have never seen the originals, we believe; but, that with the greater number of sorts this is impossible, we are firmly persuaded. All that can be done, and indeed all that is necessary for the purposes of science and utility, is to bring all the sorts, or reputed sorts, of a country together in one garden, examine there the trees and their fruits in every stage of their growth and keeping, determine what is distinct and valuable, and issue the best sorts to the nurserymen.

The two most scientific German writers on the classification of fruits, are Manger (*Anleit. zu e. Systemat. Pomol.*) and Diel. The first takes *form* as the foundation of his arrangement; the second takes, jointly, the *quality* of the fruit and the peculiarities of the tree. Diel's system is, in our opinion, decidedly the best; in short, it is in pomology what the natural system is in botany.

30. *An Opinion on the foregoing Treatise.* By Mr. Schulz, Director of the Royal Garden at Sans-Souci.

Mr. Schulz gives the preference to the system of Manger, which, he says, has prevailed in all the Prussian States for the last forty years, and which he has adopted in an extensive correspondence for thirty-three years. The "Pomologist"

and "Drupologist" he recommends to follow Quintinye, Duhamel, and Manger, as botanists follow Linnæus. These two papers, and the works of Manger, Diel, and Sickler, deserve to be well considered by the Garden Committee of the Horticultural Society, before they fix on the classification and nomenclature of the hardy fruits. But it is superfluous to make such a suggestion as this to Mr. Sabine, who is devoted to the subject, and who will have every possible assistance. However unfortunate the Society may have been as to the plan of its Garden, we hardly think it possible that it could have met with a Secretary so competent to describe its productions, and so active and energetic in every thing respecting its details.

31. *Extract from the Transactions of the Society at their Meeting on the 1st of June, 1823.*

The titles of some papers which were read are given, and the names of the persons elected for the ensuing year; as the committees of culinary vegetables, of fruits, of flowers, of forcing and of hot-house culture, and of pictorial (*bildende*) gardening.

32. *Notice of a Palm, Chamærops húmilis, in the Botanic Garden of Berlin.* By Mr. Otto, Inspector of the Garden.

This species of fan palm is a native of the South of Europe; and the individual at Berlin, is supposed to have been brought from Holland upwards of 171 years ago. After having been many years in a tub, and exposed to the open air during every summer, it was, about the end of the last century, planted in the floor of a hot-house, by Mr. Otto, and has since ripened fruit, from which plants have been raised, and which are still in the garden. Its height is 18 feet, which may be considered extraordinary, as, in its native situations in Spain and Portugal, it forms a bush seldom higher than two feet. But the most remarkable circumstance connected with this palm is, that it was the subject of the experiment cited by Linnæus, as a proof of the sexual system of botany. In this experiment the palm is said to be the *Phœnix dactylífera*, but this mistake was corrected by Peter Collinson, who travelled in Germany during the seven years' war; and when he was in Berlin, and saw the palm, wrote the true name on a slip of paper, and stuck it in the tree.

33. *On some Species of Cinerária.* By Mr. P. C. Bouché, Commercial Gardener in Berlin.

C. lanáta, *cruénta*, and *hýbrida* are described, and directions given for growing them in leaf mould with a little sand, and increasing them by seeds or cuttings.

34. *On two different Sorts of Cabbage Lettuce.* By Mr. H. L. Mathieu, Commercial Gardener in Berlin.

The Perpignan and Montre are the sorts recommended ; the first as durable, the latter as early.

35. *On the Culture of Nicotiana (now Petunia) nyctaginiflora.*
By Mr. Otto, Inspector of the Botanic Garden at Berlin.

This handsome white-flowering annual tobacco is not unfrequent in the gardens about London, to which it was introduced from America a few years ago.

36. *Meeting of June 22. 1823.*

Before a very numerous assemblage, some fruits and flowers were presented, and the director, president, vice-president, general secretary (Mr. Otto), treasurer, and ordinary secretary, elected for the ensuing year.

37. *Discourse of the Director, on the foregoing occasion.*

Considerable benefits are anticipated from the Society. A number of corresponding members elected.

38. *Prizes proposed to be given by the Society, for the Year 1824.*

1. Deciduous trees for sandy soils, 50 *dol.* 2. Construction of forcing-houses, 100 *dol.* 3. Security from frost, 50 *dol.* 4. The handsomest ornamental plants and their culture, 50 *dol.*

An Appendix to Part I. contains a list of the Members of the Society; viz. patron, the King; native honorary, 5; foreign honorary, 63; paying members, native, 234; foreign, 243; corresponding members, 26; total, 571.

ART. IV. *Catalogue of Works on Gardening, Agriculture, Botany, Rural Architecture, &c. published since April last, with some Account of those considered the most interesting.*

In printing the botanical names in the following catalogue, and throughout this and the greater part of the preceding Number, we have made the following improvements:—

1. We have accented all the scientific names, both of plants and of classes and orders, natural or artificial.

2. In order, if possible, to affix something like meaning to the scientific names, we have distinguished each as belonging to one of the three following classes: 1st, those composed of Greek or Latin words; 2d, those named after men; 3d, those adopted from the botany of antiquity, or to be found in a classical dictionary (say Lempriere's); and 4th, those adopted from the aboriginal names, or doubtful. Names of the first class, whether generic or specific, will be found in one kind of type, as *Clerodendrum* and *média*; names of the second class, or in memory of men, will be found to have the letters added to the name in a different type from those composing the original word, as *Banksia* and *Lambertiána*; classical names are distin-

guished by having the first letter in a different type from the rest of the word, as *P*inus and *p*inifolia; and aboriginal or doubtful names, generic or specific, are wholly in a different type from that of the words which precede or follow them, as *Araucária* and *Alôga*. The advantage of this plan is, that all those words not distinguished by some variation in the type, may be found in a Greek or Latin dictionary, either single, as *Hypoestes*, or in their compounds, as *rhodon*, a rose, and *dendron*, a tree; and as to the other words, if much is not gained by knowing that they are classical, aboriginal, or commemorative, at least mystery is removed, and a certain degree of interest communicated.

3. When we have given English specific names, we have always literally translated the scientific ones; but, as it is frequently convenient to add to the literal English some word or words descriptive of the plant, we have distinguished these additions by a different type, as *Sálvia coccínea*, scarlet-flowered Sage; *Iris foetidíssima*, most fetid *Gladwin* Iris. The advantage of this improvement is that it will teach gardeners and other readers to seek for meaning in all specific names: which names, as they are at present Englished, or rather followed by English names, in the botanical catalogues, are for the greater part of no use to those who have not some knowledge of Latin. Another advantage is, that some knowledge is obtained of the meaning of Latin words of constant use in botanical works.

We have adopted these three improvements in our *Hórtus Británnicus*, with the additional one of giving the derivations of the composed names; and we would ask Dr. Hooker, Mr. Lindley, and the other editors or authors of our botanical periodicals, whether it would not contribute to the more general diffusion of a taste for, and knowledge of, botany, if they were to adopt the same improvements in naming and describing the plants they figure. We are quite certain there is not a tythe of their readers who would not be benefited by such an improvement; the spirit of the age indeed requires it, and therefore we trust they will listen to our suggestion, and adopt it; or, if they disapprove of it, assign their reasons.

We have noticed, on the cover of a preceding Number, the wishes of some readers that we should give the English names of the plants we enumerate, as well as their scientific names. But by far the greater number of plants have no English names, and the popular names of plants are so uncertain in their application, that the purposes of science, and the spread of a taste for plants, would be served by dropping many of the common English names altogether, and adopting into the language the scientific names. This result will unquestionably sooner or later take place to a considerable extent; but whether it does or not, we shall in the mean time give English names to all plants that have them; and, by accenting the scientific names, those who feel a diffidence in pronouncing them will have that impediment removed.

BRITISH.

Curtis's Botanical Magazine, or Flower Garden displayed; New Series.
 Edited by Dr. Hooker. In 8vo. No. V. 3s. 6d. coloured; 3s. plain.

No. V. for May, contains

2734 to 2740.—*Lodoicea Sechellárum*, Double or Seychelles-Island Cocoa Nut; *Pálmæ*. A beautiful palm, rising from sixty to one hundred feet, in the Isle Praslin, or Isle des Palmiers, one of the Seychelles islands to the north-east of Madagascar. This palm has for a long time been the least perfectly known, and yet the most extensively celebrated. Until the discovery of the only spot in the world where the nuts grew, in the year 1743, they were solely known from having been found floating on the surface of the

sea, in the Indian ocean, and near the Maldives islands. The nut only was found floating, and the Malay and Chinese sailors used to affirm that it was borne upon a tree deep under water, which was similar to a cocoa-nut tree, and was visible in placid bays, upon the coast of Sumatra, &c.

A new leaf is formed upon the tree annually, and, on falling away at the end of the year, it leaves a scar or ring: by these it is estimated, that one hundred and thirty years are required before the tree attains its full developement. The foliage is largest and most beautiful in young plants. The new leaf is always formed in the centre, and it shoots out perpendicularly, folded close like a fan from the top, to the length of ten feet or more. In this state it is of a pale yellow colour, and is employed for making hats and bonnets; afterwards it expands itself in all its beauty, and becomes green. There is a space of about four inches between the rings on the trunk. A Coco de Mer, planted on M. de Quincy's estate, on the Isle Maké, is thirteen feet and a half high, has thirty-nine marks or rings, and was planted forty years ago. It is a female plant; but there being no male plant in the island, the fruit never comes to maturity.

The crown of the trunk, in the midst of the leaves, is called the cabbage, and is eaten like that of the true cabbage palm (*Aréca oleracea*); but it is less delicate, and slightly bitter; it is often preserved in vinegar.

The trunk itself, after being split and cleared of its soft and fibrous part within, serves to make water-troughs, as well as palisades for surrounding houses and gardens.

The foliage is employed to thatch the roofs of houses and sheds, and even for the walls. With a hundred leaves, a commodious dwelling may be constructed, including even the partitions of the apartments, the doors, and windows. In the Isle Praslin most of the cabins and warehouses are thus made. The down which is attached to the young leaves serves for filling mattresses and pillows.

The ribs of the leaves and fibres of the petiole constitute baskets and brooms. The young foliage, as before mentioned, affords an excellent material for hats. For this purpose the unexpanded leaves only are taken, dried in the sun, and cut into longitudinal strips, two or three lines in breadth, which are then plaited; and scarcely any other covering for the head is worn by the inhabitants of the Seychelles.

Out of the nut are made vessels of different forms and uses. When preserved whole, and perforated in one or two places, the shell serves to carry water, and two of them are suspended from opposite ends of a stick. Some of these nuts hold six or eight pints. If divided in two, between the lobes, each portion serves, according to the size and shape, for plates and dishes, or drinking cups; these being valuable from their great strength and durability: so that this kind of utensil, in the Seychelles islands, bears the name of *vaisselle de l'Isle Praslin*. And such is the estimation in which these nuts are held by the negroes and poor people of other islands, that the sailors always try to obtain and make them part of the cargo of their vessel. Amongst other articles, shaving dishes, black, beautifully polished, set in silver, and carved, are made from them.

Solanum (*solari*, to comfort?) *Quitense* (belonging to Quito in Peru), *Angular-leaved downy Quito Solanum*; *Solanaceæ*. "The noblest species of the genus we are acquainted with." It grew in the open garden of R. Barclay, Esq., Bury Hill, Surrey, in the summer of 1826, to the height of five or six feet; and with its large noble leaves of a deep green with purple veins, large white flowers, and thick and beautiful purple down, which clothes its racemes, calyx, and the under side of its young foliage, exhibits a truly handsome appearance. A most valuable addition to our half-hardy annuals, and well worth having.

Rhipsalis grandiflorus, Large-flowered *Rhipsalis*; *Cacti*. *Rhipsalis* is a new genus, separated from *Cactus* by Dr. Hooker. This species is supposed to be an epiphyte. It was introduced to the Royal Garden at Kew by Messrs. Bowie and Cunningham, the king's collectors, in 1816. The plant flowered in 1826, when a drawing was made by a very meritorious gardener lad, Mr. Duncanson, which Mr. Aiton has kindly lent to Dr. Hooker.

No. VI. for June, contains

2741 to 2747.—*Cactus cochiniiflorus* (2 pl.), Cochineal-bearing Indian Fig, 12 and 1, and *Cacti Opuntia*. Almost arborescent, growing nine feet high.

The cochineal insect (*Coccus cacti*) lives on this species in the West Indies, but in Mexico and Brazil on the *C. Tuna*. It is a small insect, of the order of Hymenoptera, not unlike the mealy bug of our gardens. "It is aboriginal in Mexico, and was cultivated for its precious dye, long before the conquest of that country." The plantations are called nopaleros. "The proprietor of a nopalery buys, in April or May, the branches or joints of the Tunas de Castilla (*Cactus Tuna*?), which are sold in the markets of Oaxaca at about three francs a hundred, loaded with young cochineals. These are kept in cellars for twenty days, when they are exposed to the air, suspended under a shed. So rapid then is the growth of the insect, that by August or September the females are big with young, and ready for the sowing, which is done in small nests, made of the fibrous parts of the foliage of a *Tillandsia*, called Paille. In four months from the time of sowing the harvest commences. The insects are brushed off with a squirrel's or deer's tail by women, who sit during this operation for whole hours at one nopal plant; so that, were it not for the extreme cheapness of labour in that country, Humboldt assures us, that the rearing of cochineal would prove an unprofitable employment. After being gathered, the insects are killed by boiling water, or by exposing them in heaps to the sun, or by means of the vapour baths of the Mexicans; and, when dry, they are fit for exportation. By the latter method, the powdery substance is preserved, which increases the value of the insects in commerce." The living insect may be seen in the hot-houses of Kew Gardens.

Cunninghamia (by Mr. Brown, to commemorate the merits of Mr. James Cunningham, "an excellent observer in his time, by whom this plant was discovered; and in honour of Mr. Allan Cunningham, the very deserving botanist who accompanied Mr. Oxley in his first expedition into the interior of New South Wales, and Captain King in all his voyages of survey of the coast of New Holland,") lanceolata, the *Pinus lanceolata* or *Araucaria lanceolata* of botanists; *Coniferae*. A tree of considerable size. Culture in p. 409.—*Dianthus caryophyllus*, varieties of Picotees from Brussels, by Mrs. Bewicke, of Close House, near Newcastle on Tyne.—*Camellia Japonica* flore simplici albo, Single white-flowered Camellia, from seed of the striped camellia, by Mr. Rollison of Tooting.—*Pleurothallis foliosa*, Leafy fragrant *Pleurothallis*; *Orchideae*. An epiphyte from J. T. Mackay, Esq. of the Dublin College Botanic Garden; native of Brazil; with a delightful fragrance like that of the cowslip, and worthy of cultivation in every stove.—*Acacia mucronata*; *Leguminosae*. A twiggy shrub from New Holland, of the easiest culture.—We regret to see such things as picotees and common camellias figured in this work, which, in our opinion, ought to be devoted to elegant science rather than floral amusement.

Edwards's Botanical Register. Continued by John Lindley, Esq. F. L. S. In 8vo Numbers. 4s. coloured.

No. CXLVII. for May, contains

1059 to 1066.—*Euphoria* (fertile; from the abundance of its fruit) verticillata, Whorled-flowered *Euphoria*; *Sapindaceae*. A stove shrub figured

from the Chiswick Garden. It is nearly allied to those fine Asiatic fruits, Litchi, Longan, and Rambutan, but has not fruited or been propagated in this country.

Convólvulus ochráceus, Ochreous *Benin* *Convolvulus*; *Convolvulaceæ*. A tender annual from Mr. Tate's nursery.—*Siegesbéckia Jorullénsis*, Jorullo *Siegesbeckia*; *Compósitæ*. "An annual plant of singular aspect, found by Humboldt and Bonpland on the Mexican volcano of Jorullo, at the height of about 3000 feet above the level of the sea, flowering in September. With us it is a hardy annual, flowering from June to October." Worth having.—*Fúchsia cónica*, Conical-tubed *Fúchsia*; *Onagráriæ*. A handsome green-house shrub from Chile, not unlike *F. grácilis*. Worth purchasing.—*Oxális* (acid) *carnósa*, Fleshy Wood-Sorrel; *Oxalidéæ*. "A curious half-hardy species of *Oxalis*, native of Chile, whence living plants were brought to the Horticultural Society, in 1825, by Mr. James M'Rae. It may be readily preserved in a cold-frame, where it flowers in abundance from April to September. The foliage is an excellent substitute for sorrel. The whole plant is singularly fleshy."—*Tabernæmontána coronária*, Single garland-flowered *Tabernæmontana*; *Apocynéæ*. A beautiful stove shrub, nearly allied to *Nérium*. Cuttings of the ripe wood root in peat and sand under a bell.—*Polýgonum* (many knee-joints; in allusion to the stems) *emarginátum*, Notch-fruited Buckwheat; *Polygonéæ*. A pretty and hardy annual, cultivated in China for the sake of its grain.—*Rhéxia* (to break) *versicolor*, Changeable-flowered *Rhexia*; *Melastomáceæ*. A beautiful little hardy green-house plant, from St. Catherine's, on the coast of Brazil. It is "covered all the summer with a profusion of delicate flowers, changing to pink after having been a short time expanded, and during the winter retaining its deep green foliage, stained beneath with rich crimson." By cuttings freely, and abundance of seeds.

No. CXLVIII. for June, contains

1067 to 1073.—*Sisyrínchium graminifólium*; *Iridéæ*. An evergreen stove perennial, from Chile, a country abounding in this genus.—*Billbérgia iridifólia*; *Bromeliáceæ*. A truly noble epiphyte, from Mrs. Arnold Harrison's rich collection at Aighburgh, near Liverpool; found on trees about Rio Janeiro, and growing readily in a humid hot-house.—*Pitcaírnia suaveólens*; *Bromeliáceæ*. Rio Janeiro. Treatment that of the pine-apple.—*Trifólium fimbriátum*, Fringed Clover; *Leguminósæ* *Lotéæ*. A pretty hardy perennial from the Colombia River, by Mr. David Douglas, the Horticultural Society's collector there.—*O'phrys fúscá*; *Orchidéæ*. Gibraltar frame, and light garden mould.—*Prostánthera violácea*; *Labiátæ*. Half shrubby and pretty. Fort Jackson.—*Oxális fúlgida*, *Oxalidéæ*. Possibly the female of *O. rubélla*.—The present Number is of more than usual interest, from a new arrangement of *Bromeliáceæ*, in which the eatable pine-apples are made a genus by themselves under their original name, *Ananássa*.

Botanical Cabinet. By Messrs. Loddiges. In 4to and 8vo Parts. 5s. and 2s. 6d.

Part CXXI. for May, contains

1201 to 1210.—*Genísta canariénsis*, *Érica mucosóides*, *Érica spicáta*, *Amarýllis psittacína*, *Cuníla mariána*, *Lobélia cærúlea*, *Cactus truncátus*, *Melaleúca decussáta*, *Ornithógalum sternbérgii*, *Andrómeda arbórea*.

Part CXXII. for June, contains

1211 to 1220.—*Polýgala bracteoláta*, C.G.H. Green-house; airy situation; sandy peat; cuttings.—*Oncídium divaricátum*. A charming epiphyte, from Brazil.—*Eúrya chinénsis*. A low bushy shrub like the tea, from China. Green-house; loam and peat; cuttings.—*Fernandésia élegans*, Flor. Peruv., the *Lockhartia élegans* of Dr. Hooker. An epiphyte from Trinidad, which succeeds pretty well in pots, well drained and filled with moss, sawdust, and sand, the surface covered with growing moss. Stove; prop. by division.—*Ixóra*

cuneifolia. India. Stove shrub; loam and peat.—*Dorstenia ceratosánthes*. A singular herbaceous plant from South America. "The receptacle of the flower is of a very particular shape, much resembling a pair of stag's horns, altogether dissimilar to every other plant." Stove; peat earth and loam.—*Erica umbellata*. Portugal; on sandy hills and dry wastes; a foot high. In a cold-frame, in sandy peat.—*Erica ostrina*, Scarlet *tube-flowered* heath. C. G. H. Sandy peat.—*Fabricia stricta*. New South Wales. Green-house; loam and peat; cuttings.—*Sisyrinchium anceps*. Dry hills and grass lands, from Canada to Carolina.—In addition to the improvements which we have suggested in our introduction to this article, we think the readers of the Botanical Cabinet would be gratified to have the natural orders given, as well as those of the artificial system.

Geraniaceæ. By Robert Sweet, F. L. S. &c. In Numbers. 3s.

No. LXXXIX. for May, contains

353 to 356.—*Pelargonium Stewartii*, "named in compliment to our much respected friend, David Stewart, Esq., of Great Russel Street, Bloomsbury, formerly superintendent of the fine establishment of the late J. J. Angerstein, Esq., of Woodlands, near Blackheath, at that time the most celebrated garden in the country for forcing fruits of all descriptions, and for the choicest collection of the best-grown conservatory plants that we ever beheld, many of which flowered there for the first time in this country. To Mr. Stewart we are indebted for the first rudiments of our education on the cultivation and propagation of plants, having been for some time one of his pupils, and by his permission we were allowed to try different experiments, which has enabled us to establish quite a different system in the cultivation and propagation of plants, than any hitherto used: how we have succeeded, we leave those to judge who have seen, and understand the subject; though we have now quitted that employment for the present, for one still more agreeable to our taste, that of publishing different works on botany and the cultivation of plants."

"One of Mr. Stewart's principles was to imitate and assist nature as much as possible, which principle we have always strictly adhered to, quite in opposition to the generality of horticulturists."

Otidia crithmifolia, *Hoarea hedysarifolia*, *P. psilophyllum*.

No. XC. for June, contains

357 to 360.—*Pelargonium eriocalon*, *Dimarcia Smithiana*, *P. albinotatum* and *basilicum*. Hybrids. The first and especially the last have very brilliant-coloured flowers.

The British Flower-Garden. By Robert Sweet, F. L. S. &c. In 8vo Numbers. 3s. each.

No. LI. for May, contains

201 to 204.—*Allium neapolitanum*, Neapolitan Moly; *Asphodelæ*. Fragrant, and as handsome a species "as any in this extensive genus, of which an excellent Monograph has lately been published in the *Memoirs of the Wernerian Natural History Society of Edinburgh*, from the pen of Mr. George Don, who has recorded 139 species besides doubtful ones."—*Verbena* (*Veneris vena*; to induce love) *sororia* (sister), *Nepaul Vervain*; *Verbenaceæ*. A pretty plant, nearly related (sister-like) to the *V. officinalis* of Britain.—*Siegesbeckia droseroides*, Sundew-involucered *Siegesbeckia*; *Compositæ*. "Its greatest beauty and singularity consists in its curious involucre, the glands of which are covered with a glutinous matter, which catches any small insects that happen to alight on them." Seeds of it ripen plentifully, which should be sown in heat and transplanted in the open borders.—*Leonurus* (lion's tail) *sibiricus*, Siberian Mother-wort; *Labiatae*. A hardy biennial from Siberia, flowering from June to August.

No. LII. for June, contains

205 to 208.—*Pulsatilla vernalis*; *Ranunculaceæ Anemonéæ*. A hardy perennial, low and tufted, flowering in April.—*Ophrys lutea*; *Orchideæ*. A handsome species from Gibraltar, succeeding well in a warm border in sandy loam with a little pounded chalk. This species and *O. fusca*, figured in the *Botanical Register* of this month, were introduced by William Atkinson, Esq., of Grove End, from Gibraltar.—*Aubriétia purpurea*; *Cruciféræ*. A low tufted perennial with purple flowers in May.—*Claytonia caroliniana*; *Portulacææ*. A tuberous-rooted perennial, from the garden of R. Barclay, Esq., of Bury Hill, and succeeding well in light sandy soil.

Cistinææ. By Robert Sweet, F. L. S. In 8vo Numbers, every alternate Month. 3s. each.

No. XII. for May, contains

45 to 48.—*Cistus canescens*, *Narrow-leaved hoary Rock-Rose*. Sect. I. *Erythrocistus* (*Erythros*, red, and *Cistus*). Rare, handsome, and very like *C. incanus*. Cuttings.—*Helianthemum lignosum*, *Hard-wooded Sun-Rose*. Sect. II. *Tuberaria* (with tuberous or swelled stems). Curious, requiring the protection of a frame in winter. Sandy loam and peat; seeds.—*Cistus platyspalus*, *Broad-sealed Rock-Rose*. Sect. III. *Ledonia* (*Ledon* or *Gum-Cistus*-like.) Handsome white flowers. A little protection in winter; young cuttings.—*H. lineare*, *Linear-leaved Sun-Rose*. Sect. IV. *Euhelianthemum* (*Eu*, for, *H. i. e.* *His* proper). Pretty white flowers, well adapted for rock-work; cuttings or seeds.

The Botanic Garden. By B. Maund. In small 4to Numbers, Monthly. 1s. 6d.

No. XXIX. for May, contains

113 to 116.—*Gentiana Catesbæi*, *Xeranthemum annuum*, *Dahlia superflua purpurea plena*, *Mimus* (an ape or masked actor; in allusion to the flower) *luteus*. The etymologies and accentuations are given in this work, and we really think the example is worth imitating by all the others. No mystery ought to hang about any part of science; it is only per force that men make use of words which they know nothing about. An excellent example has been set in this respect by the authors of the *Library of Useful Knowledge*, which we hope will soon be imitated in all works adapted for general perusal or reference.

No. XXX. for June, contains

Symphoria racemosa, the Snow Berry, a handsome and singular little shrub; *Zizyphus paliurus*; *Scabiosa atropurpurea*; *Chrysanthemum sinense*. The figures are very neatly done. Whoever can afford to have infants, and wishes them to imbibe a taste for botany and gardening, or, in other words, to lay in a capital stock of ideas and associations for a cheap, permanent, and increasing source of happiness, applicable to every period of life, and to be enjoyed in every country, in or out of misfortune, ought to spare 18s. a year for this work.

Bevan, Edward, M.D.: *The Honey Bee; its Natural History, Physiology, and Management*. London. 12mo. 9s.

The "result of an attempt to supply a Treatise exhibiting a concise view of the present state of our knowledge of the bee." Two or three bee-hives add greatly to the interest of the flower-garden, and the present manual is just such a book as was wanted for the entertainment and guidance of the amateur. Most people who are fond of bees, have some favourite theory or scheme for their management: ours is that of keeping them in Polish or log-hives; that is, long hollow cylinders or trunks of trees, of six inches diameter within, as we have seen generally in Poland, and as we read (*Honey Bee*, p. 95.) are also in use in Egypt and North America. The

advantage of this plan is, that it never becomes necessary to kill the bees; and that honey may be taken at pleasure, if it can be spared, during the whole of the summer, by simply removing, or unlocking and opening, the slip of board which covers the longitudinal opening in the cylinder, in the middle of a warm day, when most of the bees are out. This, as we have elsewhere mentioned (*Encyc. of Gard.* § 1738.), we have seen done every two or three days, for the use of the family, during a residence of above three months in a small Polish town on the Russian frontier. We are glad to see, by some papers in the *Mechanic's Magazine*, that different persons are trying this hive in England. If the trials are persevered in, we have little doubt the *Pasieka* will be found, in familiar phrase, the best fancy-hive. For profit, the common straw hive and total destruction, however harsh and unsentimental it may seem to say so, are not easily to be surpassed.

Transactions of the Horticultural Society of London. Vol. VII. Part I. London. pp. 208. 5 pl.

Twenty-three articles, nine of which are by practical gardeners, and the remainder by officers, or persons in the employ of the Society.

Colville, James, Nurseryman and Seedsman, King's Road, Chelsea: A Catalogue of Plants grown for Sale. London. 12mo. 3d edit. pp. 49.

Mr. Colville excels in the department of house-plants, and has here produced a catalogue of them, very well arranged for the purposes of commerce; viz.

Hot-house climbers.	Geraniaceæ, or plants belonging to the family of geranium.
Hot-house plants.	China roses.
Amaryllidææ, or bulbous plants related to Amaryllis.	Hardy climbers.
Orchidææ, or plants belonging to the orchis tribe.	Hardy flowering shrubs, requiring peat-soil.
Green-house climbers.	Hardy trees and shrubs.
Green-house plants.	Hardy perennial herbaceous plants.

Each of these divisions is arranged alphabetically. The Amaryllidææ, which include 16 genera, and upwards of 250 species, are distinguished as hardy, green-house, and stove plants; so are the Orchidææ, which include 52 genera, and about 150 species. The China roses include 46 species and varieties. The hardy climbers amount to 21 genera, and 89 species, *Wistéria Consequana* and three fine hybrids of *Passiflora cærulea* included. The great recommendation to this catalogue is, that all the plants are purchasable from Mr. Colville. In a fourth edition, we should like to see the Greek letters omitted before the varieties, and common numerals or English letters substituted. The use of Greek letters to designate botanical varieties, is a relic of the dark ages, unattended with the slightest degree of utility.

Medical Botany, &c. : By John Stevenson, M.D., and James Morss Churchill, Esq., Surgeon. In Monthly Numbers. 3s. 6d.

No. III. for March, contains

Hyoscyamus (*hyos*, hog, and *kyamos*, bean; because the capsule somewhat resembles a bean; and the herb, though poisonous to man, may be eaten by swine without injury) *niger*, Common black Henbane. An indigenous annual, on dry calcareous wastes. A narcotic poison, operating like *atrópa*, and to be counteracted by emetics and the stomach-pump. *H. álbus*, *aúreus*, *physaloídes*, and *Scopólia*, are all deemed poisonous. In medicine, it is occasionally used as a substitute for opium and *atrópa*. The seeds, smoked, are said to relieve the tooth-ache.—*Phellándrium* (*phellos*, cork, and *aner*, a man: or from *phellio*, to deceive; in allusion to its resemblance to parsley, fennel, and other wholesome umbelliferæ, and its noxious qualities) *aquí-*

ticum, Water Hemlock. An indigenous biennial, in ditches and rivers; not very common, but yet in abundance in some muddy ponds and ditches, near both London and Edinburgh. A narcotic poison, but not very violent; sometimes used in pulmonary consumption and other cases.—*Hellebórus* (*helein*, to cause death, and *bora*, food; a name of Dioscorides's,) *níger*, Black (from the dark colour of the root,) Hellebore. An ornamental perennial from Austria and Greece. A violent acrid poison, to be relieved by emetics and bleeding; sometimes used in medicine for its cathartic qualities.—*Lactúca* (*lac*, milk) *virósa*, (*virus* poison; the plant being poisonous in its wild state), Common poisonous Lettuce. A native biennial in dry, warm hedges. The inspissated juice of the cultivated lettuce, the lactuarium of the *Materia Medica*, is used as a substitute for opium; the juice of the wild plant is undoubtedly more powerful.

No. IV. for April, contains

Conium (*konis*, dust; but the application is not evident) *maculátum*, Common spotted Hemlock. A biennial of almost every climate. A powerful narcotic, celebrated for having been taken voluntarily by Socrates, on whom it brought on numbness in the extremities, and in a short time death, without pain. In medicine it is used in the way of opium.

Citrus (*Citron*, a city of Judea) *aurántium* (gold-coloured), the *Seville* or gold-coloured Orange tree.

Oléa (oil, *Cell.*) *europæa*, European Olive. A tree of rocky soils in the South of Europe and North of Africa. There are several varieties, distinguished by their leaves, or by the size, colour, and form of the fruit. Young plants propagated by extension bear in Italy in two years; planted in dry, calcareous soil, against a south wall, and well protected by mats or boards during winter, there can be little doubt they would bear well in this country; and, though there would be very little benefit from ripening the fruit with a view to oil, yet it might be well worth while, and at any rate it would be a gratifying result, to grow olives for pickling. The oil is obtained from the ripe fruit by expression of the pulp, without breaking the stone. The best comes from the South of France, because there most pains are taken in its manufacture. Mr. Clare suggests (*Hort. Trans.* VI. 538.) that the *Caméllia oleífera* may probably be found superior to the olive in the South of Europe, "as its oil is said to be equal to the olive; and it will grow in the same climate, requires a less fertile soil, is of much greater growth, and more abundant produce."—*Anagállis* (*anagelao*, to smile; from the beauty of the flowers) *arvénsis*, Corn-field or scarlet Pimpernel. A procumbent annual of cultivated grounds. The flowers close on the approach of rain, and the plant is on that account called the shepherd's weather-glass. Poisonous, but not employed in medicine.

No. VI. for June, contains

21. — *Hellebórus fœ'tidus*; *Ranunculáceæ* *Ranunculéæ*. A native perennial, remarkably acrid, excoriating the mouth and fauces; violently cathartic, and, in large doses, highly deleterious; chiefly used as a vermifuge.—*A'rum maculátum*; *Aroidéæ*. The root is fleshy, nearly white, inodorous, but very acrimonious in a recent state. By drying, this quality is lost, and the root becomes a farinaceous substance, which in some countries has been converted into bread; in the Isle of Portland, into sago. Being saponaceous, it is used in France, under the name of cypress-powder, as a cosmetic. It is a poison, to be removed by emetics or the stomach-pump, and has a place in the *Materia Medica* as a stimulant.—*Asárum europæ'um*; *Aristolochéæ*. A native perennial, emetic, cathartic, and diuretic, and formerly used instead of *ipécacuhána*.—*Rosmarínus officinális*; *Labiátæ*. Bitter, and yielding an oil of great fragrance, used in nervous head-aches.

Fleming's British Farmer's Magazine, exclusively devoted to Agriculture and Rural Affairs. Published Quarterly. 4s.

A description and engraving of Actonia, a three years old short-horned heifer, the property of the Reverend Henry Berry.—*On the Game Laws*. In which the writer suggests the idea of empowering lords of manors to grant leases of the game to all holders of the soil; thereby to legalise the sale of game, and give tenants and other occupiers an interest in preserving it.—*On the improved breeds of cattle*. The writer takes what we consider to be the good-sense view of the subject; and breeds from animals having the properties desired in their offspring, whatever may be the proximity of consanguinity.—*On planting forest trees*. By our esteemed correspondent, Mr. Main. In which Mr. Withers is requested to consider the *best practical mode* of planting our national wastes; the *best mode for the trees* being so expensive, that Mr. Main fears it will deter many landholders from planting at all.—*Dairy husbandry*.—*Crows, rabbits, &c.* The latter should, and the former should not, be destroyed.—*Agriculture in Jersey*. Agreeable reading. Sea-weed the universal manure.—*Science of Agriculture*. An extract from an American work, gratifying to see, as a specimen of the state of science, and rapid progress of improvement, in North America, and as a proof of liberal and enlightened feeling on the part of Mr. Fleming. With the *Quarterly Review*, as it was conducted a few years ago, an approbatory extract from any American work would have been sufficient to procure the damnation of whatever it was connected with. Happily, these times are gone by, even with the *Quarterly Review*, and we trust for ever.—*On the present distress*. By Simon Gray, of Camden Town. Which is traced partly to over-trading and new commercial regulations, but principally to the great and sudden diminution of the accommodation granted by the Bank of England.—*Smithfield Club and Cattle Shows*.—*On the manufacture of straw plat and hats in imitation of Leghorn*. By J. and A. Muir; extracted from vol. xlv. *Trans. Soc. Arts. M. and Commerce*. Messrs. Muir, after many trials, prefer the straw obtained from rye grown in sandy soil, well manured. Twenty bushels of grain are sown to the acre. The crop is cut when in flower, or when the grain is in a milky state,—put in boiling water for half an hour, then spread on dry clean sand or gravel, bleaching on grass being liable to produce mildew, and in two or three days the process is completed. The following extract from Messrs. Muir's remarks is of particular interest:—“This manufacture, if introduced, might be productive of much good, by giving our peasantry, who are engaged in it, habits of cleanliness; for the value of the work will always depend very much on its proportionate cleanness. Their houses, clothes, and hands must be kept clean, otherwise they cannot make clean work.” With commendable liberality, Messrs. Muir, who are extensive straw-hat manufacturers in Greenock, remark, that they “do not think premiums should be offered to the manufacturers; they will be rewarded by procuring superior work. We think a premium may be offered to the person who raises wheat-straw as spindly as fine wire, and which is also found to bleach to as good a colour as Leghorn hats.” If platting straw and winding silk cocoons could be generally introduced and found to pay, the blessing to females of the lowest classes would be so much the greater; because there is no chance of these operations ever being satisfactorily performed by machinery. But our fear is, that even if they were introduced, the high price of the means of existence in this country, would prevent the operators from coming in competition with those of other countries, for which there is no remedy but in the approximation of the prices of the necessities of life in Europe to something like a common level; and this is the result to which they must infallibly come. The necessity and the advantage of such a result, the distress which every year brings with it, and which is only partially subdued to re-appear with greater vigour, renders more and more obvious.—

Patents. — Biography of Sir John Sinclair. — Review of Steele's "History of Peat Moss." In which the writer does justice to a work, to which it was alleged by another writer in the *Edinburgh Observer* newspaper (Ap. 27.) we "hardly intended to do justice," alluding to our short notice of Mr. Steele's book (p. 214.). We have, however, no such feeling; and to prove to Mr. Steele and his friend, or pseudo-anonym, "A Moss Improver," that this is the case, we shall quote the character of the "*History of Peat Moss*" from the *British Farmer's Magazine*, and give an extract from the "Moss Improver's" letter; and leave them without comment, for every reader to draw his own conclusions.

Steele's History of Peat Moss. — After some introductory remarks the Reviewer observes, "There has existed a want of the recorded practice of eminent men, who, in accomplishing the object of improvement, should have ascertained also the most economical mode of proceeding. Such, it appears to us, have been the sentiments of our author on this subject; and his labours have been laudably directed to ascertain what substance might be judiciously applied in the reclaiming of bog, and how the several processes of draining, road-making, and planting, &c. might be performed most effectually, and at the least expense. The several statements made on the subject appear to us highly satisfactory, and the reasoning conclusive; and we most sincerely hope Mr. Steele's work will get into the hands of the parties chiefly interested; for, unquestionably, the subject of reclaiming bogs is one of national concern, so long as Great Britain shall think fit to grow her own bread, and remain independent of the foreigner for the size or the price of her loaf."

After giving some extracts, the Reviewer continues, "we should willingly transfer to our pages much of the interesting matter with which this volume abounds, but we consider it more judicious, and certainly more just to the author, to refer those of our readers (and we are sure there will be many,) who desire further information on the subject, to his very full and practical statement of all that appears needful to be known on this particular branch of rural improvement."

The serious part of the "Moss Improver's" accusation is, that we have mentioned "willows generally among the number of those trees that thrive in peat-moss grounds," leaving our readers "to suppose that large willows will grow on such soil." In Mr. Steele's book (p. 271.), he says: — "The *Salix alba* (white willow), the *fragilis* (crack willow), and the *viminális* (the ozier), and in general all our largest and best willows, will grow in pure water, but I have tried them in every possible way in moss grounds, and I am satisfied they will not grow there, even on the sides of moss ditches." The question is, what does Mr. Steele understand by moss grounds? Or does he mean to say that willows will not grow on such moss grounds as will produce other timber trees? We shall give Mr. Steele, or his friend "A Moss Improver," the full benefit of answering these questions in his own way in our next Number, trusting that he will accept our assurance of the most perfect good feeling towards him and his work, notwithstanding what he is pleased to consider appearances of a contrary nature.

The British Farmer, &c. (noticed *Gard. Mag.* vol. i. p. 192.) By John Finlayson, inventor and patentee of the self-cleaning ploughs and harrows. This is an exceedingly well-executed review of one of the most scientific and valuable tracts on agriculture that has appeared for a number of years. There is much in the work on the subject of peat-moss, and in that respect it may be considered a fit companion for Mr. Steele's book, though neither is calculated to supersede the other. We are sorry the Reviewer has blamed Mr. Finlayson for being too chemical and botanical in his descriptions; and it may confirm the received idea of Reviewers having the most opposite opinions as to the merits of a book, to state, that two of the passages quoted in the *British Farmer's Magazine* for condemnation, are

precisely those which we should quote for approbation. We recollect a similar case in the *Edinburgh Review*, some years ago, where, in a review of the *London Horticultural Transactions*, a paper on Seton's numbering-sticks (*Encyc. of Gard.* § 1378.) was singled out as frivolous, and fit to be ridiculed, which we considered, and do still consider, as the best in the volume which contains it. Mr. Finlayson's Reviewer states the following, as "too chemical:—'The nearer the surface, the less tannin, the less acidity; the more ligneous fibre, fecula, mucilage, saccharine matter, and other principles.' (p. 55.)" Again: "'Lime in combination with carbonic acid, forms all the varieties of marble, limestone, chalk, and marl; and with sulphuric acid, gypsum, alabaster, plaster of Paris, &c.' Too classical:—Our author is determined to let us know the Latin for red fog and common sorrel; for, three times does he hammer out their scientific names (*bryum purpureum*, aut *rú mex acetosélla*) into our aching heads, until our patience is quite exhausted. (p. 348.)"

Now, in the first place, we entirely approve of what the Reviewer calls too chemical;—because it contains four distinct substantive ideas, instead of the one vague idea of "riches," or some such word, which the Reviewer would probably have substituted. If the agricultural reader is not sufficiently conversant with chemistry to assign ideas to these words, he will thus learn the necessity of directing his attention to that study; and having directed his attention to it, we know that the result will be to his benefit. Secondly, we are confident that every person who knows any thing of botany will agree with us, that there is no certainty in any names of plants but the scientific names. The man that would seriously use red fog and common sorrel, when discussing a subject scientifically, can have had no botanical experience. That this is the case with our Reviewer is evident; for *rú mex acetosélla* is not the classical name of common sorrel, but of sheep's sorrel, a very different plant, and indicative of a very different soil, "We trust," continues he, "that on the publication of a second edition. the style may be brought down to the capacity of the reader." We, on the other hand, trust, no such thing will be attempted; and our able and talented contemporary, whoever he may be, will excuse us for saying that his advice, if generally followed, would lead to the stagnation of all improvement. Instead of books being brought down to the capacity of readers, the minds of readers should be elevated to the science which ought to enter into all books of useful knowledge. It is fitting that the rich and the curious should have any sort of books they like, and be allowed to disguise or dress up ideas in any way they choose. Their reading may be as various as their cookery or their dress; but all that is essential for the progress and happiness of society should, like air, water, bread, and butcher's meat, be exactly the same for all classes. It is highly necessary that every individual in society should have a tolerable knowledge of chemistry, natural history, and natural philosophy; by the judicious employment of time, the humblest individual may easily acquire this; but if nothing is stated in books but what they already can easily comprehend, the motives for farther self-improvement are done away with. There is a medium in this matter, as in every thing else. We rejoice to see that the Society for the Diffusion of Useful Knowledge produce their treatises in language neither darkened by useless technicalities, nor rendered imperfect from an idea that their readers ought to be treated as children, or beings of inferior capacity.

The reviews of *Testimonies in favour of Salt as a Manure*, by the Rev. B. Dacre, and of various pamphlets on the corn laws, with agricultural intelligence from every part of the country, sporting affairs, markets, and agricultural obituary, we must pass over; and conclude by bearing testimony to the great improvements which have taken place in this Magazine, which we heartily wish success, and are happy to hear of its extensive sale.

PART III.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Foreign Notices.*

FRANCE.

METROSIDE ROS Lophanta grows well in the open air at Oro, near Dax, in the department of Landes. It produces abundance of flowers, ripens seeds, and, as there are plenty of birds in the neighbourhood, there is no reason why it should not be naturalised as well as the fig, the olive, and the mulberry, which spring up in the woods of the South of France. (*Bul. Un.*)

GERMANY.

Brugmansia cándida, *Pers. Datúra arbórea*, Lin. (Vol. II. *fig.* 44. p. 146). This plant, though a native of New Granada, is very hardy, and will flower remarkably well in the open air, if treated in the same manner as geraniums, fúchsias, dáhlías, or *Erythrína crista gállí*. It is easily injured by moisture, but it will bear a cold of 25° Fahrenheit; it requires an exceedingly rich soil, and, as the flowers and leaves are large, a sheltered situation. In the Botanic Garden of Pappelsdorf are two plants, four years from cuttings, which have been every year plunged in the soil of the open garden in May, and taken up again in November. They bloom twice a year, in July and in the beginning of October, and one of them has produced 153 blossoms at the first flowering, and 79 at the second. (*Sinning, in Prus. Hort. Trans. & M. R. Ap. 2.*)—There can be no doubt a great many deciduous exotics might be treated in this manner with advantage; and, as we have before observed (p. 358.), wherever there are any spare house-plants, they should be tried out of doors. In large establishments, a plot of ground laid out as a parterre might be annually devoted to this purpose. The effect would be splendid and interesting for a great portion of the *belle* season, and the object in view most useful.

ITALY.

The imperial Villa at Monza was built by the Archduke Ferdinand of Austria, in 1777. It is situated on a gentle declivity, between the town of Monza and the Briaura hills, and the river Lambro runs through the park.

The Gardens of Monza surround three sides of the palace. On the east side they are laid out as pleasure-ground, after the manner of English landscape-gardening; in this part is a small piece of water, with several cascades. Among the exotic trees are some cedars of Lebanon, and a shrubbery composed of the *Magnolia grandiflora*, some specimens of which have attained a great height. On the south side is the botanic garden, which is filled with exotic plants from all parts of the world, arranged in systematic order. The hot-houses, which are very numerous, are placed in this division of the garden. The north side is occupied by fruit trees, chiefly oranges and lemons, and by the pine stoves.

The Park of Monza extends two miles beyond the palace ; it is divided into different enclosures of pasture, arable land, vineyards, and wood. A great quantity of game is preserved here, and there is a numerous herd of deer.

The present Viceroy of Lombardy has made many improvements at Monza. He has built several ornamental cottages in the park, which he allots to the neighbouring peasantry ; he has erected a tower in the garden, for the purpose of placing there a collection of cryptogamous plants, and other objects of natural history, modelled in wax ; and he causes to be introduced every year new plants, from foreign countries, with a view to naturalise such as will live through the winter in Italy. (*J. Clare.*)

HOLLAND AND THE NETHERLANDS.

Early Spring Salad.—Great quantities of the blanched leaves of chicory (*Cichorium Intybus*) are sold in the markets at the Netherlands very early in the spring, and supply a grateful salad long before lettuces are to be had. The roots (which are of the shape and size of a carrot, and are extensively employed, when dried, as a substitute for coffee) are taken up in autumn and placed in a bed, almost as closely as they can stand together, with merely a little earth to fill up the vacuities ; experience having seemingly taught the Belgian gardener the important fact theoretically pointed out by Mr. Knight, that the new annual supply of leaves of plants of this description is derived from the stock of sap elaborated in the preceding year, and requires nothing from the soil but moisture. Upon the bed of roots, thus closely packed together and defended from frost in winter, a slight hotbed of manure is laid in spring, with six or eight inches of earth interposed. Into this earth the leaves shoot, struggling for light and air, and become perfectly blanched and crimp, and lose most of their natural bitterness. The adoption of this plan of cultivating chicory, the large perennial root of which so peculiarly fits it for this purpose, might be recommended to many great towns in the north of England, where any thing in the shape of a salad is rarely seen until the end of April, and then only tough green lettuces, far more bitter than this invitingly white chicory. In the Netherlands, it is in profusion from the latter end of March. An acre of chicory might be *grown on cheap* land, five or ten miles distant from the place of consumption, the roots brought by waggons in autumn, and planted in a few hundred square feet of the market-gardener's more valuable ground, which they would occupy only from October to April, at which time it is not otherwise wanted ; and it might thus be profitably cultivated so as to be sold, as in the Netherlands, at twopence for a bundle sufficient to fill a salad bowl, and be within the reach of the poorest individual. (*Note of a Friend.*)

If, with me, you think the plan of raising chicory salad of some importance, I wish you would call the attention of the London gardeners to it, if it be not already known to them. Being myself ignorant how far they are able to supply decent salads of *Endivia* or lettuce early in the spring, I have only referred to the north of England, but if, as I suspect, no *blanched* salad is to be had in London at a moderate price before May, the plan would be of still greater value there, as, to my taste, chicory thus treated is little if at all inferior to the *C. Endivia*, and the roots might literally be grown at Ipswich or Chelmsford, and there at so cheap a rate as to allow every mechanic to have his bowl of salad for twopence, as here ; an object, it seems to me, of much greater importance, than half of those for which our Horticultural Societies offer their premiums. (*Ibid.*)

We cordially agree with our correspondent, and hope some spirited market gardener will make the attempt suggested. The gold medal of the

Horticultural Society would be at least as well bestowed upon such a market-gardener, as upon the Solicitor who prepared their charter, or the Earl of Powis for ripening the Mango. (*Cond.*)

Hop Shoots.—These are seen in spring throughout the month of April in the Belgian markets in great abundance on every vegetable-stall, being cultivated as a regular garden product. From their whiteness, without any tinge of green, they would seem to be procured, as in the case of chiccory, by removing the earth into which they shoot, and breaking them off before they have appeared above ground; and the same plan is probably adopted with the asparagus, which is usually perfectly white. (*Ibid.*)

Trees in Public Walks.—In planting public walks, the Belgians do not, as is but too often done in England, think it enough to squeeze the trees into holes barely large enough to contain the roots, and cut out of hard and sterile soil, and then leave them to their fate. During much of last winter (1826-7), many workmen were employed in digging out the sandy soil round scores of the trees on the Boulevards, Brussels, which, though fifteen or twenty feet high, and three or four inches in diameter, were not quite so luxuriant as the rest, and replacing it with rich black surface mould, of which, as the holes were ten feet square and above two feet deep, each tree had subsequently (allowing for the mass of earth left round the roots) at least one hundred and fifty cubic feet to strike its roots into. Equal attention is paid in pruning these trees, the rows of which consist of a broad-leaved elm and lime alternately. The limes are trained and clipped flat and fan-like, and kept low so as to fill up the space between the elms, which are allowed to assume their natural form, but also receive a careful annual pruning. All the branches too crowded, or crossing each other, are cut off close to the stem, as well as several of the lateral twigs from each branch; the whole head of the tree, both branches and spray, being kept *thin* and well *balanced*, and particular attention being given to preserve one central leading shoot, by cutting off that one least upright when the tree has parted into two. (*Ibid.*)

Transplanted Peas and Beans.—A considerable proportion of the first crops of peas and beans about Brussels is transplanted, after being raised on slight hot-beds, or warm quarters sheltered by reed or straw fences. The rows of beans are about thirty inches apart, and the beans (that is every two beans, two being planted in each hole) about ten inches apart in the rows. The peas (planted but one in each hole) are also about ten inches distant from each other in the rows, but the rows are only ten inches apart, a pathway being left between every five or six rows. Rods are not put to each row, as with us, but a line of rods is stuck in obliquely on each side of every bed of five or six rows, so as to meet archwise in the middle. (*Ibid.*)

ASIA.

The Zunjeed, Salix Egyptiaca, is a species of willow. The leaves are of a silvery hue, and the flowers, which are of a deep scarlet, send forth a most delicious perfume. When in blossom, the Zunjeed is viewed with a jealous eye by the Persians, from the belief that it has a strong tendency to excite the passions of the females. The Persian who was describing the curious properties of this tree told me, that twelve fursungs north of Teheraun, the men lock up their women while the flower is in blow. (*Keppel's Journ. from India.*)

The Culture of Coffee has been introduced, within these few years, to several countries in the Peninsula of Malacca, and particularly at Tringænow. The country there is said to be very favourable to its culture, and the produce is said to be superior to that of Java or Sumatra. Coffee is

also cultivated in the island of Penang, but only by the European settlers. The Chinese, who occupy the greater part of the island, confine themselves to the culture of pepper. (*Asiatic Journ.*)

AFRICA.

Spártium nubigénium, the *White Retama*, or *White Broom*, of the *Canary Islands*. — The honey made by the bees upon the Peak of Teneriffe has long been celebrated. Every village in the neighbourhood in the month of May carries its bee-hives, which are hollow stems of the dragon tree (*Encyc. of Gard.* § 1738.), and places them in the crevices of the rocks. Millions of bees then swarm around the large and fragrant white bushes of the white retama, and very soon fill their hive. The honey is taken from them twice every summer, always in great abundance, and neither *Hymettus* nor *Chamouny* have ever produced any thing equal to it, it is so pure and transparent, and the taste so aromatic and delicious. Whoever, indeed, would import this bush to the bees of Europe, would deserve as well of his countrymen as he who introduced the vine and fruit trees [?], and this would be by no means difficult, for *spártium* grows perfectly well here, where snow lies almost continually from December till the middle of April, and even where the lowness of the temperature checks the vegetation of every kind of tree. It might thrive extremely well in the interior of Norway, in Austria, and Poland. But no one has been hitherto successful in rearing it in Europe; and every thing that has been said of its flourishing in botanical gardens is erroneous. (*Prof. Jamieson's Phil. Jour.* Dec. 1826, p. 78.)

ART. II. — Domestic Notices.

ENGLAND.

THE Purple-coned Fir of Nepal, *Pinus spectábilis*, has been raised by Mr. Lambert from seeds received from Dr. Wallick. "This tree, which may be regarded as the Silver Fir of Nepal, surpasses all others of the fir tribe in beauty. Its lofty and pyramidal form, its numerous long, erect, cylindrical, purple cones, studded with drops of pellucid resin, and its flat leaves, silvery underneath, and of a bright shining green above, which thickly adorn its ash-coloured branches, render it a truly admirable object. The trunk is from seventy to eighty feet high, perfectly straight, covered with a smoothish grey bark, and having a circumference of seven or eight cubits. The wood is light, compact, and of a rose colour, resembling, in grain and colour, the pencil cedar, *Juniperus Bermudiána*. Its cones afford, by expression, a purple dye. The resin, especially that of the seeds, is highly pungent to the taste, and its scent is very powerful, not inferior to that of the *Deodára*. The elevation at which it is found, namely, of from 8000 to 10,000 feet above the level of the sea, induces us to hope that it will be found capable of enduring our severest winters. A magnificent plate of this species, accompanied by a complete description, will be found in the second volume of Mr. Lambert's monograph of the genus, under the name of *Pinus spectábilis*." (*Prof. Jamieson's Phil. Jour.* March, 1827, p. 306.) — We understand plants of this most interesting tree have been raised in the Fulham nursery.

New French Pears. — "I have planted out a number of the sorts mentioned in your list (p. 253.) as stock plants, as well to prove the sorts as to

supply me with scions for grafting. I have a friend at New York who sends me all the best American fruits, which I am planting out also for the same purposes. I have sent a number of things to New York lately; among others, the common primrose, which is a rare plant there. WALTER LEE.

“*Upper Bath Road, Bristol, March 24. 1827.*”

Transplanting Turnips.—“For many years I have sown turnip seed on any little vacant spot, and, when the plants had two or three leaves, planted them out by a line in regular rows; and nothing can succeed better, or produce finer roots. Hardly one in twenty dies.” (*Rusticus in Urbe.*)—That they should not die, is not to be wondered at; but do they bulb freely? If the plants are not placed so deep as before, and only the tip of the tap root made firm by pressure, the upper part of the root may swell. Swedish turnips are allowed to succeed very well when transplanted, but they do not swell so freely when inserted in the ground as deep as cabbages, as when only the lower part of the root is made fast. If Rusticus in Urbe’s practice was with Swedish turnips, there is nothing in it either new or remarkable. (Cond.)

Bird-catching.—“If you will make birds drunk, that you may catch them with your hands, take such meat as they love, as wheat or beans, or such like, and lay them to steep in the lees of wine or in the juice of hemlock, and sprinkle the same in the place where the birds use to haunt; and if they do eat thereof, straightways they will be so giddy that you may take them with your hands.” (*Notable Things*, 12mo. 1814, p. 70.)

A certain Preventive against Birds taking Seeds out of the Ground in Gardens, &c.—“Mix together 1 lb. of gas tar, $\frac{1}{4}$ lb. of brown spirits of tar, and $\frac{1}{4}$ lb. of grease; into this dip some shoemaker’s thread or twine, and draw it several times over the newly sown beds, supported a few inches from the earth on the tops of sticks.” (*Robert Gorton, Chemist and Druggist, Wolverhampton, April 11. 1827.*)—The effect is produced by the smell of the sulphurated hydrogen of the tar; the grease merely keeps a body of it together, to supply evaporation for a greater length of time. Common tar, with a little gunpowder bruised in it, has the same effect. We make these remarks with a view to neutralising that sort of indiscriminate faith which many persons are apt to have in recipes, owing to the natural laziness and love of mystery which belongs to human nature. When a young gardener reads a long recipe for effecting any thing, a safe course for him will be, first, to doubt whether some of the ingredients might not have been introduced to prevent the thing from appearing too simple; and, secondly, to reflect whether he cannot trace the efficacy of the composition to some single ingredient, which would probably have had the same effect alone. There is not a greater bar to the progress of the human mind, than that veil of mystery which it seems, till lately, to have been a part of the business of the learned professions to throw over every kind of knowledge. Let every individual for himself, and in his own profession, doubt in every thing that wears the appearance of mystery, or that he cannot account for on simple principles; on every subject let him seek for the naked truth, in which alone there is solid satisfaction to the mind, and safety to the conduct.

An Apple tree, of the Caldwell variety, now stands at Ratclif, near Nottingham, worth noticing for its rapid growth, large size, and abundant crops, considering its early age. The stock was produced from the seed of a crab sown by Mr. Parr, whose property it is. It was grafted by him 22 years since, and is now 30 feet high and 46 yards in circumference. The produce this year was 120 pecks, of 81 apples each. The Caldwell is a good baking apple, and keeps remarkably well. (*E. M. Mather, Old Basford, Dec. 8. 1826.*)

In the Vinery at the Botanic Garden of Hull, belonging to Mr. Donn, erected last spring upon a new, light, and economical plan, a vine of the genuine Tokay was planted on the 19th of April last, without either ball or earth attached to its roots, and it has now produced the prodigious number of 200 bunches of grapes, above 130 of which at present remain upon the tree. (*Hull Advertiser*, April, 1827.)—If this be correct, we should be glad to know from Mr. Donn what method he pursued to keep the bunches on the trees so long, and also what state they were in in regard to flavour and appearance.

Fine new Potatoes were offered for sale in Lancaster market on May 17th at 10d. per lb., and there was a larger supply on the following day at 8d. per lb. (*Lanc. Gaz.* May 19.)—These potatoes, Mr. Saul informs us, were raised at Poulton, in the manner described by him (p. 47.).

New Potatoes from the open Ground, June 4. — Eddison, Esq. of Mount's Bay, Penzance, (Vol. I. p. 342.) has sent us a sample of good size and quality, accompanied by a notice, that to have new potatoes in his neighbourhood by the latter end of April, the sets should be cut with one eye each, and planted in a warm situation about the middle of December, at the usual distance, a moderate quantity of good stable dung under the sets, and a covering of three inches of mould.

SCOTLAND.

Caledonian Horticultural Society, April 19. — The annual show of Auriculas and Polyanthuses fell short of any former one, which was chiefly to be ascribed to the lateness of the season, many of the finest flowers not having yet come into blow, but partly owing to an evident neglect of such competing exhibitions on the part of those who possess fine flowers.

Of Stage Auriculas there were but two collections, the best of which was found to have been sent from Drum by Mr. William Milne, gardener to Gilbert Innes, Esq. of Stow, and the Society's medal was awarded to Mr. Milne.

Of Seedling Polyanthuses several collections were shown, and the preference was given to those marked "Sterne;" but, on opening the sealed note, this collection was found to belong to James Macdonald, Esq. Newington, who, having been the successful competitor in the same article last year, could not receive a medal this year.

A Collection of strong and beautiful Hyacinths was placed on the table, from bulbs which had been flowered for five or six years past at Drum, in the open borders, protected merely by mats in wet weather. Likewise a collection, from Holland, consisting of twenty-four varieties of the Crown Imperial (*Fritillaria Imperialis*), which had also been produced at Drum garden. [How were they cultivated and treated? As in p. 412?]

The ornamental exotic Plants in flower exhibited, consisted of the *Rhododéndron arbóreum*, with several large bunches of splendid blossoms; *Hóvea Célsi*; *Azálea Índica*, two varieties, purple and white; *Grevíllia Illicifólia*; and *Borónia serruláta*. The meeting having considered these productions as remarkably fine agreed, although there was no proper competition, that a medal be awarded to the cultivator, Mr. Cunningham, at Comely Bank.

Six kinds of Apples, in a state of high preservation, with some Scottish Walnuts, ripened last autumn, were sent by Mr. Cruickshank, Strathtyrum, to whom the thanks of the meeting were voted, with a request that he would communicate to the Society his peculiar mode of keeping fruit. (*Edin. Ad.* April 24.)

The coal-gas bill (p. 352.), we are happy to learn, has been defeated.

North British Professional Gardeners' Society Edinburgh, April 11. — Prizes were awarded to the following individuals : — For the best mushrooms, to Mr. James Goodall, gardener to the Marquess of Lothian, Newbattle Abbey; for the best six auriculas, to Mr. John Young, gardener, Burntsfield; for the second best, to Mr. Daniel Sinclair, gardener, Broughton Hall; for the best six polyanthuses, to Mr. John Young; for the second best, to Mr. William Milne, gardener, Drum; for the best three double wallflowers, to Mr. John Young; for the second best, to Mr. Daniel Sinclair, Broughton Hall; for the best double hyacinths, to Mr. William Milne, gardener, Drum; for the second best, to Mr. Daniel Sinclair. (*Scotsman.*)

Green-Market, Edinburgh, April 14. — The public green-market is now beginning to have an attractive appearance. A number of aromatic plants and spring flowers are displayed in the different booths. Radishes and young onions, grown in the open air, were sold on the 12th, for the first time this season. The radishes were as usual, made up in bunches, and sold at 3d. a dozen. Besides the usual potherbs, there were salad, spinach, garden and water cresses, green mint, rhubarb, asparagus, sea-kale, broccoli, and early cabbages raised in frames ! (*Ibid.*)

April 28. — The markets have been much better supplied with vegetables during the week, than could have been expected from the state of the weather. Radishes, young onions, sea-kale, and asparagus are now very plenty. The best asparagus is got for 2s. 6d. a hundred in the market for the southern district, and for 5s. a hundred in the city market. A very good dish of sea-kale is got for 9d. and 1s. (*Ibid.*)

May 16. — Two small baskets of strawberries, ripened in the open air but shielded by a glass frame, have already appeared in the green-market; the one on the 1st, and the other on the 6th instant. They were large, fully ripe, and excellent in flavour. (*Ibid.*)

The Pollockshaws Florists' Club held their annual competition on May 4th. Mr. Dugald Campbell, gardener to Sir John Maxwell, Bart. of Pollock, brought forward two beautiful auriculas; one, the Wild Glory, with five pips, each measuring six inches in circumference; the other a very fine seedling, with twenty-seven pips all in bloom. The judges declared them to be by far the finest flowers of the sort ever seen in the west country. (*Ibid.*)

The Aberdeenshire Horticultural Society held their first spring meeting on May 1. when medals were awarded —

For the three best Stage Auriculas, to William Chalmers, gardener to P. Cheyne, Esq. Lochhead;

For the three best Seedling Auriculas, to Mr. Alex. Diack, Mile-end;

For the three best Seedling Polyanthuses, to Captain Clyne, Gilcomston;

For Mushrooms, raised in the open ground, to Mr. Smith, Nurseryman;

For the best twenty-five heads of Asparagus, to Mr. John Smart, gardener to Mrs. Young, at Glassel;

For the three best Broccoli, to Mr. David Taylor, gardener to William Annand, Esq. Belmont;

For the best brace of Cucumbers, to Mr. William Wales, gardener to Col. Duff of Fetteresso;

For the six best Preserved Apples, to Mr. William Smart, gardener, Polgownie Lodge;

For Champagne, made from Gooseberries, to Mrs. Young of Glassel;

For three bunches of Grapes, the extra medal to Robert Davidson, Esq. Elmfield.

The second best Specimens of the above Articles were produced by — William Barron gardener, at Blackhall, stage auriculas; Alexander Diack,

seedling auricles; James Ferrier, Gilcomston, polyantheses; Robert Fraser, gardener at Woodside, asparagus; William Grant, gardener at Cornhill, broccoli; John Davidson, gardener at Dunottar, cucumbers; Alexander Hurrie, gardener of Arbidie Cottage, preserved apples; Mrs. Young of Glassel, black currant wine.

The Collection of Auricles and Polyantheses was much greater than could have been expected, after so backward a season; and the tables were decorated with a variety of beautiful flowers not offered for competition. The whole were viewed with much satisfaction, by a numerous assemblage of ladies and gentlemen. Mrs. Crombie of Plesdo honoured the meeting, by delivering the medals to the successful candidates; and, we are happy to add, that on this occasion several new members were enrolled. (*Aberdeen Chron.* May 3.)

Perthshire Horticultural Society.—A schedule of the prizes offered by the society, extends to every department of horticulture and floriculture. The first general meeting was held on the first Tuesday of May, and the second on the first Tuesday of June, but no particulars have been sent us in time for our present Number.

Destruction of Worms and Slugs.—From the Glasgow newspapers it appears that Mr. M'Dougall is very active in the use of his recipe (*Gard. Mag.* vol. i. p. 89.) in that neighbourhood. We hope its immediate and powerful effects will produce such an impression on gardeners and their employers, as to induce the latter to insist on never seeing a single earth-worm, snail, or slug, in their pleasure-grounds. We can assert from observation, that by persevering in the use of Mr. M'Dougall's application, for a season or two, the breed of these insects may be entirely extirpated from the richest and deepest-trenched garden; and from lawns and pleasure-grounds of ordinary quality, where the worms do not descend very deep, they may be completely destroyed by one good watering. We by no means approve of secrets, under any circumstances whatever connected with general utility. Mr. M'Dougall's recipe, however, is no secret. It was used by the late Mr. Forsyth, and is mentioned in his book, and in numerous places in our *Encyclopædias*, and in this Magazine; but we are almost ashamed, on the part of gardeners and their employers, to say, that we really believe its simplicity and cheapness has prevented its coming more generally into use. Had Mr. M'Dougall disguised his material, taken out a patent, and issued his composition from London, like a quack-medicine, or some of the patent manures, he would probably have killed more worms. Let every reader ask the first gardener he meets, whether he knows the recipe; and if he does, whether he uses it. Again, let no gardener complain of earth-worms or slugs, for they are much easier got rid of than any other description of insects, or even than weeds.

Coal-gas in a Hot-house.—A singular explosion of coal-gas lately took place in the hot-house of a gentleman near Falkirk. Some fresh coals had just been put into the furnace (which is of a peculiar construction), when the door was shut, and the explosion immediately followed. The flues were burst with immense violence, and so intense was the heat, that the vines and other plants were completely singed and spoiled. This is the second time the same occurrence has taken place in the same hot-house. (*Scotsman*, April 14.)

Chimonanthus fragrans.—A plant ten feet high, and covering all the east gable-end of a hot-house in the nursery of Mr. James Dickson and Sons, at Broughton, was profusely covered with flowers during the whole of December and January last, diffusing the most grateful fragrance for many yards around, and not in the least injured by the frost. I do not think the peach would ripen in such a situation, so that you see it is very hardy. I should

be obliged to any of your correspondents who could state the particular merits of *C. fragrans*, *flava*, and *grandiflora*. The best agricultural and gardening news of this neighbourhood you will find in the *Scotsman*. (*J.B., Edin. May 10.*)

Blasting Granite Rock. — Dr. Dyce of Aberdeen has communicated to Dr. Brewster's Journal, an account of a cheap and effectual method of blasting granite rock, which deserves the particular attention of the owners and workers of quarries. Beautifully scientific as it is, we can only spare room to extract an outline of the process, which may be summed up under the three following heads, viz. 1. To ignite the gunpowder at the bottom of the charge, by means of sulphuric acid, charcoal, and sulphur. 2. To take

129

advantage of the propelling power of gunpowder, as is done with a cannon ball, only, instead of a spherical ball, to employ one of a conical form (*fig. 129.a*), by which the full effect of the wedge is given in every direction at the lower part of the charge, but particularly downwards. 3. And, in the last place, to add to the effect of the whole, to insure a fourth part of the depth of the bore at the bottom (*b*) to be free from the gunpowder; so that, when inflammation ensues, a red heat may be com-

municated to the air in the lower chamber, whereby it will be expanded to such a degree, as to have the power of at least one hundred times the atmospheric pressure, and thereby give this additional momentum to the explosive power of the gunpowder. (*Dr. Brewster's Edin. Jour. Oct. 1826, p. 343.*)

Pearl Barley as a substitute for Rice. — As it is equally advantageous to the public to learn the use of a known substance as the discovery of a new one, I am sure the application of barley to another branch of domestic cookery will not be disregarded by some of your readers. I can assure them, that they will find it an excellent substitute for rice. It has been long used in this country in broth; and, when boiled with milk, sometimes called Scotch rice; but by far the best way of using it is by pounding it in a mortar. In this form it fairly rivals mannacrop, tapioca, or ground rice, and can be easily procured at one twelfth of the price of the first, and one third of the price of the last substance. It was resorted to as a change of food for my children's breakfast; and the great similarity to mannacrop induced us to try it in a pudding for them, and, I can assure you, I think it one of the best of the kind — same management as with either of the others, milk, eggs, &c. &c. What we call pearl barley is the kind used; but, I dare say, any of the kinds would answer. (*W. M., Argyleshire, Jan. 28. 1827.*)

A grocer in London (Robertson) has obtained a patent for preparing barley in the manner of ground rice, and we believe it is very generally used in hospitals, and as food for children. (*Cond.*)

The Rhubarb of Commerce has generally been thought to be the *Rheum palmátum*, Lin.; but Mr. David Don, Lib. Lin. Soc., in a very interesting paper in Prof. Jamieson's Journal, has proved it to be the *R. austrále* of Mr. Don's *Flora Nepalensis*, and the *R. Emódi* of Dr. Wallich. Plants have been raised, in Mr. Lambert's garden at Boyton, from seeds received from Dr. Wallich; the leaves are subrotund-cordate, of a dull green, the foot-stalks red and deeply furrowed, and the whole plant thickly beset with bristle-shaped points, which give it a rough feel. The "*R. austrále* appears to be peculiar to the great table lands of Central Asia, between the latitudes of 31° and 40° , where it is found to flourish at an elevation of 1100 feet above the level of the sea; and there is little doubt, therefore, of its proving perfectly hardy in our own country," (*Jam. Phil. Jour.* March, 1827, p. 303.) whenever it may pay to cultivate it as an article of commerce.

IRELAND.

The Horticultural Society of Ireland held their spring show of flowers at the Rotunda, on April 16. The attendance was extremely numerous and highly respectable, so much so, indeed, that we may safely say the public are determined to support the society, if it continue to be conducted with the same anxiety to please its visitors which has hitherto characterised it. The flowers exhibited for prizes were auriculas, hyacinths, and polyanthus, and there were also prizes awarded to the first and second selections of exotics of six pots each, and certificates for broccoli, cucumbers, and apples.

The stages on which the classed flowers were placed were tastefully decorated with various productions of the conservatory. Mr. Robson, of the vice-regal gardens, furnished a number of *Rhododéndrons* and roses, which were placed so as to catch the sun's rays through the southern windows, and the effect thus produced on the rich and transparent blossoms of the *Rhododéndrons* was uncommonly beautiful. Mr. Robson is extremely fortunate in the forcing of such plants to a premature inflorescence; the roses were as strong as any we have ever seen in the open ground. Mr. Keefe, of Black Pits, sent a fine *Acácia armáta*, an *A. verticilláta*, and a palm of a species which the writer was not botanist sufficient to determine. Messrs. Tooles and Mackey furnished the following *Erícas*; viz. *cerinthóides supérba*, *Blandfordiána*, *nigríta*, *scariósa*, *venústa*, *Walkéri alba*, *W. rúbra*, *Patersónia*, *campanuláta*, *perspícua*, *p. nána*, *pubéscens mínima*, and *pilósa*. They sent double white and double red camellias, and the *C. anemoneflóra rúbra*, *C. Chandlérii*, and a new species of *Prímula*, somewhat resembling *P. longifólia*. There were also on the stages numerous pots of *Epácris*, *Pultenæ'a*, *Polýgala*, *Gnídia*, &c.; and it was said that on future occasions the exotics will be still more abundantly supplied. An amazing large citron from the garden of James O'Reilly, Esq. of Old Castle, county of Meath, was exhibited; many contended that it was a shaddock. With respect to the prize flowers, it would be too tedious to particularise them; it is sufficient to say that they were superior in quantity and quality to former exhibitions, especially the auriculas, of which the Apollo variety obtained a general preference. (*F. T. P., Dublin, April 17.*)

ART. III. *Horticultural Society and Garden.*

MAY 8th. The following Papers were read. — On canker, &c. in fruit trees: by Mr. A. Stewart, C.M.H.S. On the effect of frost upon various hardy trees and shrubs at Newark: by T. C. Huddleston, Esq. F.H.S. On the cultivation of figs in Denmark: by Mr. P. Lindegaard, F.H.S. On the application of double windows in hot-houses: by Mr. Frederick Otto, C.M.H.S.

Distributed. — Seeds of Teltow Turnip, and Early Vienna Kohl Rabi, from Messrs. Booth of Hamburg. Chou Rouge Petit, Chou de Milan petit hâtif, Perzil nain très frisé, and Laitue gotte à graine noir lent à monter, from M. Vilmorin, C.M.H.S.

Exhibited. — Five sorts of Indian Corn, viz. Large White, Early Canada, Pearl Corn, Variegated, and one unnamed, from Mr. Van Eden, C.M.H.S. *Rósa sínica*, &c. St. Michael Oranges, from W. H. Read, Esq. C.M.H.S. Catillac Pears, from the Rev. C. Annesley, F.H.S.

Also, from the Garden of the Society. — Roseberry and Keen's seedling Strawberries, *Rhéum híbridum* (blanched), *Asparagus* grown in common beds, and *Asparagus* grown in flat beds. Flowers of Single and Double Tulips, *Narcíssus tubiflorus* and *recurvifolius*, Irish Poppy, Anemones, *Ríbes áureum serotinum*, *Ríbes tenuiflorum*, *Azálea índica phoenícea*, and *Wistéria Consequána*.

May 15th. The following Seeds were distributed. — Violet Celery, from Messrs. Booth, of Hamburg. Cresson d'orée, Endive fin d'été, Scarollé courte, Laitue Impériale, and Radis gros blanc d'Ausbourg, from M. Vilmorin, of Paris, C.M.H.S. Golden Cos Lettuce, from Messrs. Beck & Co.

Exhibited. — Two varieties of Wood from Colombia, from T. Edgar, Esq., F.H.S. Flowers of varieties of *Pæonies*, from Sir Abraham Hume, Bart. F.H.S.

Also, from the Garden of the Society. — A plant of *Azálea índica phoenícea*, Tyrian-purple-flowered Indian *Azálea*. Flowers of *Rósa Báńksia lútea*, *Fris susiána*, *Wistéria Consequána*, Common Poppy Anemone and Irish Poppy Anemone (both sorts showy border flowers, well worth having), Single, Double, and Parrot Tulips, and *Narcíssus recurvifolius*. Laitues chicorée, épinarde, and petite (salad lettuces).

Chiswick Garden. — Sir, I am happy to see that you have not forgotten your promise of exposing the bad arrangement of the Chiswick Garden. I have always said that, as soon as the ground was obtained, the public should have been invited by advertisement to send in plans for laying it out, in the same way as is practised in the case of public buildings. Had the Committee adopted this mode, they would at least have done their duty in the manner of other Committees of the same kind. Instead of this, they have produced a work which, though few like you dare venture to criticise, yet, I believe, no one has ever ventured to approve of. I fully agree with all you have said about it, and I could say a great deal more, if my interest as a tradesman did not prevent me from giving my name; that is, if I were not
(Yours, &c.)

May, 1827.

A NURSERYMAN.

ART. IV. *Linnean Society.*

THE papers read to this society, for the past year, have been chiefly zoological, and illustrative of the natural system, or system of general affinities, as applied to animals. It is singular, that the prevailing taste for this system should have attracted the notice of the editor of a newspaper, at so distant a situation as Van Dieman's Land, as the following extract will show :

" On reviewing the progress of botany during the last five years, one cannot avoid being struck by the rapid progress made by the natural system, and the continually diminishing veneration for the sexual arrangement of Linnæus. In the *Transactions of the Linnean Society*, the papers are, without a single exception, upon the plan, and couched in the language, of that school which professes to follow nature through all her devious windings, whatever may be the difficulties which occur in the search. This relief from the fetters of authority cannot but augur good to the science ; and, we have no doubt, in a few years botany will be able to regain the time which has been lost in the arrangement of plants by the mere number, proportion, and connection of their sexual organs, to the total neglect of the study of their affinities ; and the rising generation of botanists will look with astonishment at the exclusive reception of the Linnæan system, and the neglect of those of Rivinus, Tournefort, Ray, and Jussieu." (*Colonial Times, and Tasmanian Adv.* Sept. 1. 1826.)

The study of zoology is becoming every day more popular ; the science is undergoing great improvement, and the collections of individuals and public bodies receiving continual additions from every part of the world. Something, it is to be hoped, may be done by the Zoological Society in the way of introducing and naturalising new singing birds, for the gratification of the whole country, and new quadrupeds for the ornament of parks. The rich ought to patronise the society, and the general reader will find the very best information, as to the most interesting part of the animal world, in Griffith's translation of Baron Cuvier's *Animal Kingdom*, 5 vols. 8vo, just completed.

ART. V. *Provincial Horticultural and Florists' Societies.*

THE Tulip Shows about London have attracted the usual attention during the last week of April and first fortnight of May. In the neighbourhood of Islington we took a view of the beds of Messrs. Burnard, May, Goldham, Franklin, Butler (who is publishing on the subject), and Percival, — all excellent, and deserving of separate notices, if we could spare room. Those who attend to gardening in a general way, can hardly form an idea of the sort of garden that they would see, and the occupations that they would find going on, throughout the whole year, on the premises of what is called a professed florist, for example, Mr. Goldham. This gentleman is actively engaged great part of the day, and we may say night, in effecting the most useful reforms in the fish-market at Billingsgate, and the remainder of his time he devotes to the carrying on of what we cannot better designate, than by calling a tulip manufactory, at Pentonville. The fixtures, implements, and materials of this manufactory may be estimated at between 2000*l.* and 3000*l.* ; the rent of the premises, exclusive of the dwelling-house and offices, is 20*l.* ; and three or four workmen, who it is essentially necessary should not know one tulip from another, are constantly employed.

The 'only other plants which Mr. Goldham grows are carnations and auriculas; all other flowers he looks upon as weeds, and though he has a very complete green-house nearly one hundred feet in length, he only makes use of it as a potting shed, and for blooming the two last-mentioned flowers in a wet season.

The Tulip Bed of Mr. Strong at Shepherd's Bush is said to contain more choice and valuable sorts than any in the neighbourhood of London. The spare roots were sold this season by auction for about 500*l*. One poor-looking man gave 18*l*. for one bulb! Both Mr. Goldham and Mr. Strong have raised some very fine carnations; and Mr. Strong's High Admiral, Princess Vitoria, Lord Holland, and King, tulips, are some of the finest in culture. A number of other tulip beds we have not found leisure to visit, but we are happy to learn that the taste is increasing; and this we are, not altogether for its own sake, for we cannot help considering it lower in the scale of elegant recreation, than a taste for plants as parts of a grand system, but because we like to see every body fond of something, to see every taste pushed as far as it will go, and hope for improvement in all tastes.

Yorkshire Horticultural Society, May 2.—The spring meeting of this society was held at Kirkstall Hotel, on Wednesday. The chair was taken at half past one o'clock, by the Rev. S. A. Rhodes, of Hornsforth Hall. In opening the business of the meeting, the chairman said, that after a winter of extreme severity and difficulty, the meeting had the pleasure and satisfaction to behold the products of the skill and industry of the gardener. Some of the specimens exhibited possessed great merit; and the more so, because of the difficulty which had attended their being brought to perfection, owing to the state of the weather. If so much had been done by art, what might they not expect, at the future meetings of this society during the year, when nature would afford more ample aid; but the fact that so much had been done, was an encouraging proof of the triumph of their science. Several of the gentry in Yorkshire had signified their approbation of the objects of the society, and they had been requested to hold a meeting in some other place, which might open a new field for extensive usefulness. York had been named as the most suitable; and with their concurrence the July meeting should be held there. They made that arrangement with the assurance, that the society would have the support of several gentlemen in that neighbourhood; and he had no doubt it would promote their object more than by being two distinct committees. Great advantages would result from the adoption of that measure, by exciting exertion among gardeners in a wider sphere, and by increasing the general usefulness of the society, which was the grand object they had in view. He was happy to announce, as a sample of the respectability of the subscribers lately obtained, the name of Sir F. L. Wood, Bart. and the Hon. E. Petre. (*York Courant*, May 1.)

York Florists' Society, April 30.—The ancient Society of York Florists held their annual show of spring flowers, at Baynes's Hotel, in Petergate. Mr. Wilson was presented with an elegant piece of plate for winning the greatest number of first prizes of auriculas, tulips, &c. during the year 1826; and Mr. Parker with another, for winning the greatest number of first prizes of geraniums in the same period. Twenty-five premiums were awarded for auriculas, green, grey, and China edged; selfs, and alpines; five for polyanthus; five for hyacinths; three for geraniums with coloured grounds; and three for geraniums with white grounds. (*York Courant*, May 29.)

Botanical and Horticultural Society of Newcastle-upon-Tyne, May 11.—The following prizes were awarded:—The Society's silver medal to Mr. M'Queen, gardener to S. W. Parker, Esq. Scot's House, for the best auricula (Gorton's Champion of England). The bronze medal to James

Graham Clarke, Esq. of Fenham, for the second best auricula (Metcalf's Lancashire Hero). The silver medal to Mr. Thomas Fergusson, Newcastle, for the best double hyacinth (Groot Voorst van Russland). The bronze medal to Mr. Thomas Davidson, gardener to the Rev. R. H. Brandling, Gosforth House, for the second best double hyacinth (Grand Duc). The silver medal to Armorer Donkin, Esq. of Jesmond, for the best dish of forced strawberries. The silver medal to Mr. William Davidson, gardener to John Walker, Esq. of Benwell, for the best dish of asparagus; and the bronze medal to Mr. Thomas Cook, gardener to T. W. Beaumont, Esq. M. P., for the best six early cabbages. A very fine dish of apples, of the following sorts, Yorkshire Green, Jackson's or Middleton Apple, Lancashire Housewife, Nonpareil, White Calville, Cockle's Ribston, Simpson's and Edmondson's Aromatic Pippins, in as high a state of preservation and flavour nearly as when first pulled, was exhibited by Mr. Thomas Smith, gardener to Matthew Bell, Esq. M. P., of Woolsington. [Query, how preserved?] The table was decorated with some beautiful blossoms of *Passiflora alata*, *Ornithogalum nütans*, and a great variety of handsome species of *Narcissus*, from the nursery of Messrs. Falla and Co.; who also exhibited an uncommonly fine green-edged seedling auricula, which was named Swiss. It is highly pleasant to see the exhibitions of this society attracting so much attention. The door of the inn was crowded with carriages; and the company, consisting of nearly 300 ladies and gentlemen, seemed highly gratified with the exhibition. The number and beauty of the hyacinths and auriculas excited great interest. The fragrance of the hyacinths was so overpowering at one time, that the windows of the room were obliged to be opened. (*Newcas. Cour.* May 12.)

Ross Horticultural Society, May 23. — The twelfth exhibition of this distinguished institution took place, and, notwithstanding the weather was unfavourable, upwards of three hundred persons entered the room, delighted with a show so brilliant and gay. Amongst this numerous and fashionable throng we noticed all the first families for ten miles round, and the town on no previous occasion was so filled with carriages. The grand stand was richly covered with about 300 geraniums and green-house plants, and nothing could exceed the splendid and brilliant colouring of this enchanting mass. The geraniums were all in splendid bloom, and in the first health and condition, and the warmest admirer of this extraordinary class confessed they surpassed any previous collection. The stage for tulips ran nearly the length of the room, and about 350 of the society's bottles were filled with the first specimens of this beautiful flower; and it may with truth be asserted, that not an indifferent flower was staged. Mr. Breese, gardener at Rudhall, produced his seedling *Erica* in the finest bloom. This plant was exhibited at a previous show, but it was then small. This new specimen was very much admired, and we are happy to find Mr. Breese has cultivated from it several plants, so that this charming variety will now find its way into other collections. This seedling is named *Westfalingia*, in honour of his mistress. Mrs. Farmer exhibited 33 specimens of seedling pansies, grown by her at Treago, and some were much admired. H. Rosser, Esq. produced nearly all the varieties of pæony, in fine bloom, particularly the *Pæonia moultan*. The number of specimens exhibited, ticketed, and entered into the society's books amounted to 770. (*Chelt. Chron.* June 7.)

Lancaster Floral and Horticultural Society, May 1. — The show of auriculas, &c. in this town, on Tuesday last, brought a most numerous and respectable attendance of ladies and gentlemen, who were much gratified with an exhibition which far exceeded that of any former year, there being upwards of 500 auriculas staged, and 50 green-house plants. The many rare and beautiful specimens produced made it difficult for the judges, in some instances, to determine which deserved the prizes. Thirty-two prizes

were given for auriculas, green, grey, and white-edged, and self-coloured alpinas and seedlings, eight for polyanthuses, three for green-house plants, two for cucumbers, and one for grapes, asparagus, mushrooms, sea-kale, rhubarb, and potatoes. (*Lancaster Gaz.* May 5.)

An Amateur Prize Show of Auriculas and Polyanthuses was held at Lancaster on May 5th, when six prizes were awarded for the following flowers:—Barlow's King, Privateer, Pillar of Beauty, True Blue, and Captain Frazer, auriculas; and Fletcher's Defiance, polyanthus. (*Ibid.*)

Lancaster Florists' and Horticultural Society, May 26.—At the tulip show sixty prizes were given for tulips, four for geraniums, the property of ladies, four for green-house plants, two for hardy plants, two for bouquets from the open garden, and one for grapes, oranges, citrons, lemons, potatoes, lettuces. (*Id.* June 2.)

Preston Florists' Society, April 25. Auricula Show.—Many gay specimens were displayed; but, in consequence of the sudden change and remarkable severity of the weather, the plants were by no means so numerous as was expected. There were also a half-dozen fine polyanthus flowers exhibited. Of rare green-house and other plants there was a great variety, whilst the show of asparagus, broccoli, cucumbers, mushrooms, French beans, early potatoes, and even grapes, at so early a period of the season, appeared to excite general attention. Twenty-four prizes were given for auriculas, six for polyanthuses, nine for green-house plants, eight for hardy plants, and twelve for fruits and culinary articles. (*J. Holland, Sec.*)

May 23. the Tulip Show.—The display of tulips, green-house plants, and early fruits and vegetables, at the Bull Inn, was equal, if not superior, to any we have ever seen; and, notwithstanding the very unfavourable state of the weather, the company assembled was quite as numerous and respectable as on any former occasion. Thirty-six prizes were given for tulips, three for geraniums with white grounds, three for geraniums with red grounds, and three for geraniums with purple grounds. Seven prizes were given for green-house plants, seven for hardy plants, two for grapes, one for the best pine-apple, for cucumbers, strawberries, broccoli, potatoes, peas, rhubarb, gooseberries, cabbages, asparagus, and for the best lettuce, which measured a yard in circumference, and weighed 2 lbs: it grew in the garden of George Jackson, Esq. (*Preston Pilot, May 29.*)

Ipswich Horticultural Society, May 26.—Some amateur horticulturists, who established a Gooseberry Society at Ipswich about three years since, having met, it was resolved to adopt the name of "Ipswich Horticultural Society," in consequence of the increased number of subscribers, and that there should be at least two exhibitions of fruit and horticultural productions every year. The first show was fixed for Monday, 30th July next, when prizes will be offered to the four heaviest gooseberries, the best seedling, the best-flavoured plate of fruit, the largest white and red currants, as well as other prizes to such fruits and vegetables as may be deemed of sufficient merit. It is also intended to have a second meeting in the autumn, when prizes will be offered for the fruits then in season; and, if the funds will allow, it is contemplated that a third show may be held, later in the year, for winter fruits. (*E. R. B., Stow Market, May 29.*)

Florists' Meetings at Worcester, in former times.—A correspondent has sent us some accounts of these, dated so far back as 1777, at which time it appears that prizes, from 10s. 6d. to 2l. 2s., were given for carnations; and that silver medals, at different periods from and before 1777 till 1784, were awarded for florists' flowers, chiefly carnations. Our correspondent deploras the non-existence of such societies about Worcester in the present day, remarking that "the mind of man, rushing from the toils of business to relaxation, eagerly courts some pursuit which he may take up without much exertion; and happy is he who, avoiding the baneful effects of drinking, has

recourse to some innocent amusement which may afford him pleasure, and at the same time, not unfit him for the labours of the following day." (*C. of N. Ap. 10.*) The fatigue of constant occupation of every kind, requires to be relieved by corresponding relaxation; which, to be felt as such, must be different in its nature from our constant employment. The savage, after the extraordinary fatigues of hunting, lies down to sleep; the shepherd, after the wanderings of the day, amuses himself, whilst watching by night, with contemplating the stars; and the agriculturist, after passing the day alone, or with his team in the fields, courts the society of his kind in the evening. Perhaps, for the lower and middling classes of society who live in villages or towns, the recreation of gardening, and the love of plants, are more generally applicable as contrasted pursuits, than any other equally healthful and interesting. They cannot, therefore, as our correspondent suggests, be too generally encouraged.

Florists' Lottery. — Sir, I am induced to trouble you, not for the bare purpose of serving myself, though, I confess, my object does embrace my own interest, but to propose a plan for the general accommodation of amateur florists — myself as well as others. In common with a vast number of suburban, I cultivate, to the best of my ability, a few varieties of tulips, carnations, pinks, ranunculuses, auriculas, polyanthuses, &c., but I find my ardour in the pursuit greatly checked by the prices charged in the catalogues for good flowers of the above sorts; and, although I am aware that to possess a certain flower on which his mind is fixed, many a hobby-rider of this class will part with his coat, or be guilty of even greater extravagances, to indulge an uncontrollable propensity; yet I am not so far gone at present, but am content to depend upon the kindness of a friend or two, who occasionally make an exchange with me, or present me with any thing they may have to spare. But many, no doubt, do not possess this facility, and are obliged to be content to admire their favourites in the collections of their friends. Now, as many amateurs have a large stock of duplicates which, for reasons known to themselves, they are very reluctant in parting with, the plan I would suggest is, to make a raffle of the overstock in the proper season, and the receipts might be appropriated to the better accommodation of what was retained, or for the purchase of such other flowers as can only be obtained by money. I shall not attempt to draw up a scheme for such, but leave it to some one having a stock to get rid of; I would merely propose, that there be no blanks, and that the prizes should vary in value, the higher containing the best flowers, and all should be named sorts. I cannot think this plan can reasonably be objected to, though I am aware of the great jealousy existing among some of the fancy; but am of opinion, the number of such is very trifling, compared with that of the more liberal-minded; and I flatter myself, that if this should find a place in your valuable Magazine, it will meet the eye of some ready to put the thing in practice. Your constant reader,

Kennington, May 1827.

G. W. B.

Reports of all the Flower and Fruit Shows in the Kingdom. — Dear Sir, I am anxious to suggest to you the propriety of adding to your Gardener's Magazine, a Report of all the Horticultural, Florists', and Fruit Shows in the kingdom. This appears to me not only a useful appendage to such a work, but almost indispensable to make it complete. You, I know, are aware that accounts of the gooseberry-shows, as well as of the auricula and carnation shows, are now published at Manchester; but these fall far short of what every horticulturist wishes to see, and the information he wishes to obtain in this age of improvement; which he cannot get, nor is there at present any means, except through your valuable publication. I should think, if you were to publish a supplementary number, or, if you

found too much for one, two smaller ones, it would be very desirable to all your subscribers, as they would be bound up with the work, and the same volume would then contain all the occurrences of the year. Those who do not subscribe to the Magazine, could, if they chose, have the supplement, which would convey to them what they now obtain by purchasing the Manchester book.

I should be very glad to hear your sentiments on this subject, as I really think it is of some consequence to your readers.

May 29.

SUFFOLCIENSIS.

We think it a very consistent and proper thing to give short notices of all the Provincial, Horticultural, or Floral Societies; but to extend this to a detailed account, either of these societies or of the gooseberry and flower shows, would, judging from the appearance of the latter in the "Gooseberry Book" and "Flower Book" of Manchester (p. 73.), possess very little interest for the greater number of our readers. Neither do we think they could be of much use; for what are gooseberry-shows but trials of skill in the production of monstrosities; and as to the gratification of the few individuals who have gained prizes, that, we should think, could be most effectually done by means of the local newspaper. We should have much more pleasure, and we think do more good, in marking the influence of provincial associations in promoting the introduction of different sorts of flowers, culinary vegetables, fruits, improved culture and management generally, and a taste for botany as a science. However, as we have received several letters on this subject, and as it is proper that the Gardener's Magazine should be devoted to those who are its supporters, to such an extent as to insure their support, if we find a decided feeling for the details alluded to, we shall pay more attention to them than we have hitherto done. In the mean time, as "Suffolciensis" is commendably zealous, and as he lives near Ipswich, we recommend to him the culture of succory, on the plan and with a view to the important objects mentioned by our Brussels correspondent (p. 460.). (*Cond.*)

ART. VI. *Covent Garden Market.*

THE first peas from the open ground were produced on the 17th of May, and sold for 4*l.* the half sieve, or three guineas a quart. The same day the best new potatoes sold for 2*s.* and 2*s.* 6*d.* per lb. [at Lancaster on the same day they were 10*d.*, and the following day 8*d.* per lb.]; on May 31st they were down to 1*s.* and 1*s.* 6*d.* per lb. Peas, May 26th, were at 12*s.* and 14*s.* per quart, and on the 28th at 18*s.*, 20*s.*, and 21*s.* per quart; next day, the 29th, they fell to 10*s.* per quart. Keen's seedling strawberries from the 17th of May to the 30th varied in price from 1*s.* per ounce to 1*s.* 6*d.*, and old scarlets from 1*s.* 6*d.* to 2*s.* 6*d.* per ounce during the same period. The first strawberries from the open garden came to market on the 31st of May, but only a few ounces. A few ounces of Mayduke cherries from the open air appeared on the 29th of May. Culinary vegetables and common articles in the greatest abundance. (*I. G. June 2.*)

ART. VII. *Architecture.*

IN conformity with our plan of noticing whatever strikes us as remarkable, or likely to be instructive to country residents, in architecture, we

have to point out York House near St. James's Palace, the new entrance into Hyde Park from Piccadilly, and many of the spires of the new churches, as unsuccessful efforts. We have no objection to the elevation of York House, as high as the balustrade; but the roof and its superincumbent lantern destroy the harmony of the form, raise it too high for what may be called the beauty of length, and yet not high enough for what may be called the beauty of height; two ideas are thus raised in the mind, and there leave two contending impressions, because one of them is not carried far enough to leave a prevailing sentiment or emotion. We could say a good deal more, but prefer referring our judgment to the feelings of such of our readers as have an opportunity of personal observation.

The entrance to Hyde Park we object to for reasons already given (p. 371.); farther observation and reflection confirms us in our opinion; the architect who has been so successful in designing the lodges at the different entrances to this park, seems to have completely failed in this species of design. Whoever can bear in mind the gate leading to the Thier Garten at Berlin, and some of Guarangi's portals in Petersburg and Moscow, will not wonder at our dissatisfaction. We question whether the triumphal arch into Buckingham Gardens will please us better; but it is not yet sufficiently far advanced to admit of forming an opinion. But these failures appear to us as almost nothing, when we look at the spires of most of the new churches. Happily we do not know the names of the architects of one of those to which we object; but if we did, we hope we may be allowed to differ in taste with an artist, without having any improper motives or feelings ascribed to us. Of all these spires, one which strikes us as the least to be commended is placed at the end of Portland Road, on the north side of the New Road. But there are a number of others nearly as bad. The spire by Mr. Nash in Regent Street, much as it has been ridiculed, we consider superior to most of them, and only regret the barn-like roof of the church which rises behind it. The spire which has our entire approbation, and of which we would rather have been the architect than of all the other new spires put together, is that of the new church of St. Pancras.

The street architecture of the metropolis seems to make greater progress in improvement than the architecture of public buildings. Proofs may be seen in most places where extensive new buildings are going on, as in the Regent's Park, Belgrave Square, Gordon Square, Hammersmith, &c. Messrs. Cubitt of Gray's Inn Road, perhaps the most extensive and judicious builders and designers that have ever appeared in London, have contributed not a little to this improved taste. Another cause is the more general use of Roman cement as a stucco, and its external application in imitation of stone. Next to Roman cement the most valuable invention is that of kiln-burned artificial stone, by which the capitals of columns, and all imitations of carved work, statues, urns, therms, fountains, cisterns, and other architectural and garden decorations can be made of greater strength and durability than of the natural material. This invention was first brought into notice by Messrs. Coade and Sealy, but has been subsequently greatly improved by Messrs. Cubitt, who now manufacture it extensively, and at a very moderate price.

Roman Cement. — This material, which may be reckoned among one of the most useful discoveries of the present age, for all purposes in building which require to be solid and durable, and for the most complete imitation of stone, has, like every other material much in demand, given rise to spurious imitations, which, as the late Mr. Rennie predicted before the House of Commons, has been productive of the most disastrous consequences. "The cement which is of a dark colour, approaching nearly to

black, is very inferior; for, although when mixed up it soon hardens on the surface, underneath it remains soft, and easily crumbles between the thumb and finger: another proof of its inferiority, and which is of main importance to the surveyor and builder, is the small proportion of sand which it will bear, while, on the other hand, genuine cement is better when used with an equal quantity of sand; it adheres stronger, dries of a light brown colour, and hardens all through." (*Times*, December 1. 1826.)

ART. VIII. *Domestic Economy.*

METHOD of preparing the Pectic Acid, communicated by Professor Dr. A. T. Thomson. — Take any quantity of carrots; wash and clean them well; then, by means of a rasp, reduce them to a pulp; express this strongly, and wash the marc with *distilled* or *filtered rain* water until it cease, by expression, to be coloured. Mix fifty parts of the washed marc, expressed, with three hundred parts of *distilled water*, and one part of a solution of caustic potash; then heat the mixture till it boil, and let it boil for a quarter of an hour, or until a portion of the fluid coagulate completely into a jelly with an acid. Pass, now, the boiling liquor through a cloth, and wash the mass with *distilled* or *filtered rain* water, mixing these washings passed through the cloth with that which was strained while hot. The mixed fluid should become thick and gelatinous on cooling. This contains a pectate of potass, which may be decomposed by a small quantity of muriate of lime, largely diluted with distilled water, by which means an insoluble gelatinised pectate of lime is formed, which should be well washed on a cloth. The washed pectate is next to be boiled, for a few minutes, with *distilled* water, acidulated with muriatic acid, to dissolve the lime and the starch; and, by then throwing the whole on a cloth, and washing it with *distilled* water, the pectic acid is procured.

The pectic acid, thus obtained, liquefies readily on admixture with a few drops of solution of ammonia; and, by evaporating this fluid in porcelain dishes, a super-pectate of ammonia is procured, which swells very much in distilled water; and, as it dissolves, thickens a large portion of that liquid.

Either the pectate of ammonia or the gelatinised acid may be employed for forming jellies. If the latter be used, the following process must be followed. Take one part of the gelatinised acid, well drained, and three parts of distilled water; add to this solution a small quantity of solution of pure potass, largely diluted, until the acid be saturated, which must be determined by litmus paper. Heat this mixture, and add to it three parts of sugar, which have been rubbed on lemon peel; next decompose the pectate by very dilute muriatic or sulphuric acid, and agitate the fluid, which in a few minutes afterwards will form a jelly. The jelly thus formed may be flavoured with vanilla, orange flowers, cinnamon, or the rose, at pleasure; or a very useful gelatinous lemonade may be made, by addition of lemon juice. If these jellies do not contain a sufficient quantity of sugar, they become mouldy, but never ferment.

M. H. Bracconot asserts, that these jellies are certain antidotes against the poison of the salts of lead, copper, zinc, antimony, and mercury; with the exception of corrosive sublimate and emetic tartar. They neutralise and involve the deleterious salts, and allay the irritation of the intestines, which may have been induced. (*Annals de Chimie et de Physique*, tom. xxx. p. 102. 968.)

Extracting Wax from Bee Combs. — Have on the fire an open vessel of boiling water, and standing by the fire an open vessel of cold water; put the comb, close tied in a canvass bag, into boiling water, and repeatedly squeeze it down with a stick or large wooden spoon. The wax will come through the bag, and swim on the surface of the water; skim it off, and put it in the vessel of cold water. By repeatedly squeezing the bag and skimming, every particle of wax will be obtained. When congealed on the cold water, it may be taken off, again melted,

and cast into moulds of any convenient shape for sale. (*Mechanic's Magazine*, Decem. 1825.)

We may add, that both wax and honey may be bleached perfectly white by steam, or by exposure to a humid atmosphere. In frosty weather the operation is rapid. It is by bleaching in frosty weather, Dr. Bright (*Travels in Hungary*) tells us, that the Jews bleach common honey to such a degree of whiteness, as to sell it for Kowno honey, which is exclusively made from lime tree blossoms. (*Cond.*)

ART. IX. *Cottage Economy.*

IN fixing on a situation for a cottage of any description, a naturally dry or well drained soil, and a sheltered, and yet airy, and not shaded surface, are obvious requisites. But there are two desiderata less obvious, that should also be attended to; not to place a cottage where, during summer, it will be surrounded by bushes, hedges, or trees, in such a way as to maintain around it a pond of stagnated vapour; and always, if possible, to choose a situation where the entrance will be from some point near the south.

Whatever may be the plan or accommodations of the cottage, it should be set down so as that a north and south line may form a diagonal to the square of the outer walls; that is to say, supposing the building a square or parallelogram in the ground plan, one front should face the south-east, and the others the south-west, north-east, and north-west. In consequence of this disposition, the sun may shine into every window of the house every day in the year, with the exception of a few days in December, and every wind that blows will strike on two sides of the house instead of one. The advantage as to the sun is, that the external surfaces of the walls are dried, and the interior of the rooms rendered more cheerful; and as to the winds, that the force of such as are violent is divided, and that drying winds after rain operate upon two surfaces instead of one. Another advantage as to the sun is, that his influence is moderated during the heat of the day in summer, because he then strikes obliquely and equally on two fronts, instead of falling with all his force on one front. This will apply to the roof as well as to the walls. A similar remark may be made as to the cold north winds of winter, which striking obliquely, the cold produced by them is moderated as well as their force.

The ground floor of every cottage should be raised at least one or two feet above the surrounding surface, whether that surface be naturally dry or moist, even or irregular; but if the surface is flat, very great advantages will result from raising the floor of the cottage three feet above the general level from the soil. Dampness and its accompanying cold are effectually obviated. The cold moist stratum of air, which lies on the surface of the ground, and which is known to injure the lower branches of shrubs and herbaceous plants, while it does not affect such as are higher, (*Gard. Mag.* vol. i. p. 289.) is thus prevented from entering the cottage, and a much greater degree of warmth insured, especially during the night time. Where some degree of ornament and comfort for children and females is considered worth attending to, nothing can add more to such a cottage than a raised terrace or elevated basement completely round it, and less one step of the height of the floor of the house, five or six feet broad, and covered with a veranda, or by the continuation of the cottage roof. This arrangement, independently of many other advantages and beauties, by protecting the walls and windows, and also the foundations, from mois-

ture and direct perpendicular cold, will add greatly to the warmth of the house.

*Whatever be the style of architecture adopted for a cottage, it ought not to be forgotten that most room, and, for the same expense, greater convenience, can be obtained from a square building than from any other form; and that a great many exterior angles, either in the walls or roof, are not only more expensive at first and in future repairs, but seldom so well executed in cottage building as effectually to exclude the weather. It will easily be understood that the greater additional surface given to the exterior of a building by these projections and recesses, the greater will be the cold produced by constant radiation, evaporation of moisture, and abduction by winds. The best possible form of a cottage in point of warmth, would be that of a semiglobe; we do not, however, recommend this form nor that of a cube for general imitation, but only refer to them as illustrative of principles. We regret that more attention is not devoted to cottage architecture for the lowest classes, by young architects, and shall frequently recur to the subject. In the mean time we repeat our recommendation of Waistell's *Designs* already recommended (p. 212.), and we hope the subject will be taken up and pursued till it is exhausted, in a work where the good will come into immediate and extensive use, the *Mechanic's Magazine*.*

It has been usual to address proprietors and masters, as a matter of favour and condescension, to improve the external appearance and add to the interior comforts of the cottages on their estates; which is so far commendable, because the attainment of a desirable object ought to be attempted by every lawful means: but it might easily be shown that one reason why cottages, those of gardeners at least, are not more comfortable and commodious than they are, is the indifference or backwardness of their occupants in making the proper representations to their employers. It is not to be expected that those who move in an elevated sphere, and pass their time in the continued round of occupations and amusements peculiar to elevated and independent life, can either be acquainted with the details, or possessed of the leisure requisite to enable them to enter into matters which concern the personal comforts of their servants. Every man's world is the class of society to which he belongs, and it may often happen that an individual in one class may know little more of those classes which rank under or above him, than an inhabitant of the earth can know of those of the moon or the sun. It is the duty therefore of gardeners and others, when they wish for increased comforts in their cottages or in anything else, respectfully to state their case to their employers, and to point out what would add to their happiness. A judicious and reasonable master will be much better satisfied with a servant who acts thus candidly and honestly, than with another, who, under a false notion that it is the duty of his master to attend to his comforts unasked, grieves in secret because nothing is done, and finally becomes careless and neglects his business. Every prudent and worldly-minded master knows that to supply a want before it is properly felt is like taking goods to a falling market, and every servant ought to know that the first step towards the supplying of his wants is to make them known. Though we admit, therefore, that there is great want of improvement and comfort in the cottages both of country labourers and gardeners, yet we cannot agree in throwing the blame exclusively upon the proprietors; but think a considerable share attaches to the occupants; to their false notions as to the relative duties of master and servant; and, in some cases, to a degree of indifference, or want of good taste, on the subject of personal comforts.

ART. X. *Hints for Improvements.*

CULTURE of the Truffle, *Tuber cibarium*.—We were in hopes from some hints which appeared in a former Number (Vol. I. p. 320.), that we should have heard before this time of some attempts having been made to subject this fungus to culture, in the manner of the mushroom. Since the hint has not been sufficient, we must now call upon such of our readers as live in the neighbourhood of where Truffles grow naturally, to make some trials. As to the success, we see no reason why it should not be as great with the Truffle as with the mushroom, and there can be little doubt that, if their artificial culture was once established, there would be a great and regular demand for them in the London market. The first attempt should be to imitate their native soil and circumstances, and to ascertain how they may be propagated; afterwards they might be tried in garden soil, or in their natural soil more abundantly supplied with manure; and lastly, they might be forced in beds, or ridges (p. 406.), in the manner of mushrooms. We have looked over Bornholz's pamphlet with a view to select any useful hints for a beginner in England; but that author confines himself to directions for imitating nature in the soil and shadiness of the situation. It appears that in Germany Truffles grow chiefly in forests, and therefore M. Bornholz cultivated them artificially under trees. But, if the natural soil were correctly imitated, the natural shade might be given by litter, furze, leaves, wicker hurdles, boards, or other means suitable to a kitchen-garden. The chief difficulty in the imitation will be the quality of the soil, and its degree of compression and of moisture, and these a gardener can better do from his own observation of the habitat from which he may have procured the Truffles, than from any suggestions which we could give without seeing the habitat. Bornholz observes, that small or young tubercles are more likely to remove with success, than large or full-grown ones. But, we repeat, no instructions that we could give, either from Bornholz, or our own consideration of the subject, will be of so much use to the gardener, as the inspection of the soils and situations where Truffles are found. In England these are not many; we know of a few in Kent, Hampshire, and Oxfordshire, and we trust to the gardeners in the neighbourhood of these for an attempt.

*The Baltimore Blackbird, *Oriolus Ballimórus**, might be easily introduced into this country and naturalised. It is beautiful in colour, black and brilliant orange, sings delightfully, lives on insects, and is fond of building near houses. We have introduced gold and silver fish into our gardens, and why not beautiful birds? The one above mentioned and another we should have no difficulty in raising even in flights, if we could preserve them from being stolen by bird-catchers; namely, the canary: it will endure our hardest winters, and live with the green-finch, to my certain knowledge. Two or three pair, turned out in some nobleman's garden in the spring of the year, would build and breed directly; and, if fed, would not leave the spot. (*Rusticus in Urbe.*)

 ART. XI. *Feltoniana.*

OUR correspondent, Mr. Felton, author of *Miscellanies on Ancient and Modern Gardening*, 8vo, 1795, and other works, one of the most enthusiastic and extraordinary men in the gardening way, whom we have ever met with, has furnished us with a large stock of gardening scraps and anec-

notes, which it is our intention to supply in small portions occasionally, as we find room, under the above title.

The Interment of Sir William Temple's Heart in his Garden, to some inconsiderate and foolish people gave offence; but, though the thing itself is justifiable enough and deserves no reply, yet let them take this, communicated in a letter to the editor of this work (Aubrey), dated Oct. 1. 1717, from a reverend, ingenious, and learned divine of the church of England, deservedly an intimate friend of Sir William Temple's, in these words: "As to that particular, of his (Sir William Temple's) laying his heart in his garden, a thing so common with the ancients that it seems strange to me that it should seem offensive to the world, especially, if we consider that it was no removal, but a bare consigning it after his death to that paradise where it continued while he was alive; surely we may not think a garden so unhallowed a sepulchre for any private Christian's body, which our Saviour consecrated with his own." (*Aubrey's Survey*, vol. iii. p. 349.)

Burial in a Field. — One of the finest circumstances in the history of rural burial, is related of that most worthy and most benevolent of men, Thomas Hollis, Esq. (Milton's great admirer,) who ordered his body to be buried in one of his fields at Carscomb, in Devonshire, and the field to be ploughed over immediately after his interment.

ART. XII. *Garden Antiquities.*

PICTURE of an ancient Garden. (fig. 130.) — A painting seven feet six inches by four feet eight inches, by Sebrect, dated 1696, of the house and gardens of Wollston Hall, near Nottingham, as they appeared in the

time of King William, is now on sale (price 100 guineas), at Wand's, Noel Street. The architecture of the house, which was built in the time of Queen Elizabeth, is reckoned the *chef d'œuvre* of Thorpe, who was also the architect of Holland House and Burleigh. The gardens are extensive, and laid out in the Italian style, with terraces, statues, fountains, urns, orange trees in boxes, and, what is more remarkable, an orangery with a glass roof, which must have been one of the first of that description erected in England. The designers of this structure, and probably also of a part of the gardens, must have been London and Wise, the great nurserymen and garden architects of the day. In the fore-ground is a coach and six, with some figures on horseback admirably painted; and in the distance, the woods of Newstead Abbey, formerly the seat of the Byron family, now of Colonel Wildman. As a painting, this picture is of no great value, but, as a portrait of an ancient garden, it is perhaps unique. (*Lit. Gaz.* April 28.)

The small size of our page does not admit of our giving any thing like a faithful idea of so large a picture, and one in which the details are so carefully painted. It is a valuable work of the kind, and worthy of being placed in the gallery of such a seat as Newstead Abbey, now undergoing in the gardens as well as in the dwelling, extensive improvements by the present proprietor Col. Wildman,—in a taste of which it may be sufficient approbation to say,—that it is such as Lord Byron would have adopted, had circumstances enabled him to improve them himself, instead of forcing him to transfer them to another.

ART. XIII. *Answers to Queries, and Queries.*

TULIP bulb (p. 379.); *additional Information*.—When the root planted is not strong enough to bloom, but only comes up with a single broad leaf; the same bulb is taken up which was planted, but enlarged and strengthened. (*W. B. Kingscote Gardens, Gloucestershire, March 24. 1827.*)

Propagating the Balsam by Cuttings.—Sir, I perfectly succeeded last summer in raising the Balsam from cuttings. The idea occurred to me from observing the manner in which cucumber plants will strike root in that way. I took a Balsam about eighteen inches high, and having stripped off the branches planted them in very small pots, and placed them in a melon pit. In a few days I had the satisfaction of seeing them begin to grow very freely; and after being fresh potted they flowered, but I think not so double as the seedlings. The thing is quite new to the gardeners in this neighbourhood.
I am, &c.

Fazeley, Staffordshire, Jan. 12. 1827.

C. F. W.

Balsams from Cuttings twenty years ago.—I beg leave to observe that I succeeded in this experiment near twenty years ago; but not the first time I made the attempt, because I cut the shoots off and planted them immediately, in consequence of which they every one rotted: finding this to be the case I took off the cuttings and laid them in a cool shady place till the next day, when I found that almost every one of the cuttings so treated, grew; but alas! I could never succeed in producing a good or a handsome plant by this method, as all the plants so raised grew up spindling without any side shoots, and almost every flower was single, or only semi-double, in consequence of which I abandoned it altogether.

I am, &c.

Stepney, February 1. 1827.

W. GREEN.

Propagating the Balsam by Cuttings. — I beg leave to inform G. H. B., that three years ago I tried the same experiment with success in two sorts of composts; the one frame soil and sand, the other frame soil, sand, and the siftings of old tan, and found the cuttings make the best roots in the latter compost. Now, Sir, I think there are three advantages to be derived from this method of "propagating the Balsam." First, having the high gratification of seeing those "Carnation-like flowers," during the winter and spring months; consequently ripening their seeds earlier, and undoubtedly in greater abundance: secondly, if this method be adopted the natural result will be, a reduction in the price of the seed: and thirdly, the spurious sort of Balsam seed now sold in almost every seed-shop will be nearly, if not entirely extirpated. Should you deem the above worthy a corner in your valuable Magazine, its early insertion will much oblige

Your sincere well-wisher and constant reader,

R — d, April.

T***.

Barandam Cherry. — Sir, I think the kind of Cherry alluded to by Mr. Blaikie (p. 83.) is the Barandam, mentioned by Hitt, an indigenous shrub or low tree, found in swampy ground in Lincolnshire, and in other parts of the kingdom. I have also received it from the Continent.

January 17. 1827.

HORTULANUS.

"I have met with this Cherry (the Barandam) near Sleaford in Lincolnshire; it is so named from the place where it grows, on the estate of Mr. Pattison, who told me their number was greatly increased in his time. He is now about sixty years of age, and the same land has been the property of his father and grandfather, both of whom he knew very well, but neither of them was able to give any account of that cherry being planted. It increases by suckers like the black-thorn, and bears on as small bushes. It roots well the first year after laying." *Hitt's Treatise on Fruit Trees*, 3d edition, p. 302.)

Treatment of Plants in Pots. — R. A. M. requires very full and simple directions to those lovers of plants in pots, who may not have the advantage of a green-house. Now, sir, I have tried experiments of that nature, and have to observe that a person must be very much in love with plants, who will keep them in the house for any considerable period during the winter, as the trouble will be infinitely greater than the pleasure; particularly when the leaves begin to drop off, and litter the room. I have found that the most eligible plan is to erect a sort of frame against a wall or house, like the one of which

131

I herewith send you a representation. (fig. 131.) Any one could put it up in an hour, and the very refuse of a carpenter's yard would be amply sufficient for the wood work. Then get some Russian matting, and nail it across the top to the rafters, leaving the ends hanging down

in front, and a mat at each end: in frosty weather, any old carpet, oil cloth, or piece of baize, may be laid over the matting on the top. Then get some dung, and build a dung wall inside the shed, and lay about four inches depth of old dung over the tops of the pots. Should the weather prove very severe, a little of the dung may be taken off the top of the dung

wall, and some hot dung added. Observe, that the ends of the mats which hang down in front, must be thrown up every day when it does not freeze. Greenhouse plants should be housed in October, and put out either at the latter end of April, or beginning of May.

Plants that will grow in London. — R. A. M. requires a list of those plants which best suit a London garden, as being least affected by its blacks. I have found those which are here enumerated, best to answer the above description : —

Shrubs. *Jasminum* officinale, and revolutum; *Ligustrum* vulgare; *Rhus* elegans; *Syringa* vulgaris; *Prunus lauro-cerasus*; *Hedera* Helix; *Vitis vinifera*, and vulpina.

Herbaceous plants. *Linum* perenne; *Narcissus poeticus*; *Crocus sativus* vernus; *Scabiosa atropurpurea*; *Convulvulus purpureus*, and tricolor; *Campánula* medium, and speculum; *Nolana prostrata*; *Ipomoea coccinea*; *Tropaeolum majus*; *Mirabilis jalapa*; *Agapanthus umbellatus*; *Lilium candidum*, and bulbiferum; *Oenothera biennis*, tetraptera, and purpurea; *Lupinus luteus*, hirsutus, and pilosus; *Polygonum Persicaria*; *Dictamnus albus*; *Dianthus barbatus*; *Silene Armeria*; *Agrostemma coronaria*; *Adonis autumnalis*; *Heliánthus annuus*; *Phaseolus multiflorus*; *Iberis amara*.

Caterpillars on Mignonette. — R. A. M. requires some hints and suggestions on preventing the ravages of the common green caterpillar on Mignonette.

For this evil I can give a certain remedy. — Put some unslaked lime into a pail, pour water on it, and let it stand for half an hour to settle, and then pour the water on the Mignonette. It will kill any sort of caterpillar, slug, or worm, if two or three times repeated, without in the least degree injuring the plants.

Cutting Flowers. — R. A. M. enquires how to cut flowers without injuring the plant. — Flowers should be cut with a sharp knife, at a joint, and particular care should be taken to cut clean.

London, January 11th. 1827.

MATTHEUS SYLVATICUS.

Worms in the Buds. — “ Mr. D. Taylor (p. 254.) complains of having the buds of his fruit trees destroyed by worms. I presume he means his apple and pear trees, and beg to inform him, that it is not the American blight, nor any other transatlantic enemy he has to contend with, but, as I think, some winged insect which produces the worms, laying the eggs, like the silk insect, and, I believe, most others, the preceding autumn, on or near the buds. At the time the buds are swelling, the eggs by the increased heat of the sun are hatched, when they perforate the bud and produce the effect complained of. The method that the farmers in this county take to destroy these and other insects in their cider orchards, and which I have adopted successfully in this garden, is to collect a quantity of any kind of rubbish that will burn without bursting into a flame under the trees, and on a calm day by setting it on fire, when a cloud of smoke ascends to every part of the tree. I also sprinkle a little sulphur on the burning mass, and afterwards, to make assurance doubly sure, I syringe the trees with lime-water, &c. It may be proper to add, that before Mr. Taylor sees this, should you think proper to publish it in the next Magazine, it may be too late in the season to adopt it with success, for should the grub once effect an entrance it will be impossible to dislodge him, without pulling the bud in pieces; the process, however, may be adopted next season.

S. LAUDER.

“ Glasshampton, near Stourport, Worcestershire,
March 30. 1827.”

ART. XIV. *Retrospective Criticism.*

BUDDING. (Vol. I. p. 83.)—It is recommended in the *Agricultural Journal of the Pays Bas*, “to reverse the usual mode of raising the bark for inserting the buds, and to make the cross cut at the bottom of the slit, instead of at the top, as is generally done in Britain. The bud is said rarely to fail of success, because it receives abundance of descending sap, which it cannot receive when it is under the cross cut.” This is an error, for instead of receiving more descending sap, it certainly receives less, because the bud is inserted between the bark and the wood, and the sap does not descend between the bark and the wood, but through the bark; therefore, if the cross cut is made at the top of the slit, and the bud is inserted from above, and the upper end of the bud and the cross cut are nicely fitted together (as they always ought to be), then the mouths of the vessels in the bud and the mouths of the vessels in the bark will be in immediate contact, and will consequently receive more sap than when the bud is inserted under the bark. This is the method I always employ, and it very seldom fails; when it does fail, it is generally because the bud has lost its heart, as the bark perfectly unites though the bud does not always grow.

Our correspondent is perfectly correct; the paragraph alluded to is obscure and erroneous, and we take blame for inserting it, without pointing out, as he has done, its absurdity. See also *Encyc. of Gard.* § 2058., where the two modes of budding are compared.

British Wines. (Vol. I. p. 93.)—I cannot help expressing my astonishment, that such a respectable body of men as the Caledonian Hort. Soc. should ever recommend such a process as a pattern for general imitation, as it proves an utter want of chemical knowledge on the subject of wine-making. To call such a compound wine, is most ridiculous: if it had been called a pleasant vinous fluid it would have been right, but wine it was not; at best it was but wine half fermented, or a mixture of wine and sugar undecomposed. Had Dr. M'Culloch, who, I believe, is a member of the C. H. S., been present, such a receipt would never have appeared under the sanction of the above society, without his most decided disapprobation. I could say a great deal on the subject of British wines, which I have been in the practice of making for near twenty years past, and I flatter myself I am not altogether ignorant of the science of chemistry; but as I am almost a nonentity, a person whom nobody knows, I shall not advance any thing of my own on this subject at present, but most strongly recommend to every person who has any desire to produce made wines of the very best quality and on scientific principles, Dr. M'Culloch's *Treatise on the Art of making British Wines*, 8vo. 7s., which is the very best book of the kind ever published, and which no person ought to be without, who wishes to do all that can be done with British fruits.

The idea of making good wine from British fruits, which abound with undecomposable acids, with only two pounds of sugar to each gallon, is most impracticable. Let me ask what are the substances that make wine keep, and prevent it from turning sour? Undecomposed sugar and alcohol. Now as to alcohol, this wine, as it is called, scarcely contains any; and the small quantity of sugar it contains would be speedily decomposed, were it not for the frequent skimmings and rackings it undergoes. This is the wisest part performed by Mrs. R., for without this the wine, as it is called, would not keep a twelvemonth; whereas wine made upon true chemical principles will keep any length of time, if properly managed. I have wine by me now, made from ripe gooseberries, nineteen years old, which is perfectly sound; the wine now drank by my family is twelve years old, and if it has any fault, it is that it is too strong; it never had any spirit added to

it of any kind ; all the alcohol it contains is genuine, 'the product of the fruit and sugar. To add brandy or spirit of any sort to wine, will spoil the flavour of the best that ever was made, unless it be kept a certain number of years, or added in a very small quantity. To employ the instrument called a saccharometer is useless, as British fruits contain little or no saccharine matter properly so called ; it will indicate an increase or decrease of density in the fluid, and that is all it will do. The same effect will be produced by using a common glass hydrometer, which costs about six shillings, and may be purchased at any optical or mathematical instrument maker's ; but still I consider this as entirely useless, as it is unproductive of any practical good. Mrs. R. acknowledges that the wine "sometimes" turns sour ; I never had a cask of wine turn sour in my life. I must quit this subject, as I find it would lead me too far for the present occasion, and again refer to, and recommend, Dr. McCulloch's treatise.

Maclúra aurantiáca. (Vol. I. p. 229.)—Our correspondent blames us for stating that plants could be obtained at from 30s. to 2l. 2s. a plant, and for recommending the *Maclúra* as promising "to be a most valuable addition to the dessert." He adds ; "In consequence of this notice, I purchased a plant, and enquired its character afterwards. I shall here only quote the opinion of one of the best judges of things of this kind in Europe, I mean Mr. Loddiges, of Hackney :—he says it is a plant of very little value ; for, though it will grow in the open air, it is more than probable that it never will fruit in this country. If any person wishes for a plant of it, they may be supplied by Mr. Charlwood, at Messrs. Seaman and Co.'s, Seedsman, &c. opposite the Royal Exchange, Cornhill, at 10s. a plant. So much for this 'most valuable addition to the dessert' (quære desert)."

Rhéum palmátum. (Vol. I. p. 396.)—As to its superiority over the other species of *Rhéum* cultivated for culinary purposes, I can only say that many persons have tried it for culinary purposes, and have discarded it on account of the unpleasant medicinal flavour which it possesses, &c.

On referring to a recent discovery (p. 468.), it will be found that the *R. palmátum* is ascertained not to be the medicinal rhubarb ; so that here our correspondent is as far out in his taste, as we are supposed to be in our prediction as to the *Maclúra*.

The above criticisms are from Mr. W. Green, of Stepney, and have our best thanks. Two other most valuable communications from him we hope to find room for in our next Number, and in the mean time we request Mr. Green will continue his remarks. (Cond.)

"Mr. Burges's Recipe for composing a Liquid for effectually destroying Caterpillars, Ants, Worms, &c. (p. 389.) no doubt will answer. Black soap of itself will destroy ants ; a little lime-water will have the same effect with worms ; and I believe it is generally understood among gardeners, that a small portion of slaked lime, and a third part of chimney-soot, will have the desired effect with the caterpillars. What utility then is there in making the preparation recommended by Mr. Burges ? Had it originated with Mr. Burges, it would not have been the general opinion of your readers, that he was trespassing on your valuable pages. I therefore consider it but justice to your numerous readers, that you should state to them, that the recipe was borrowed from Mr. Tatin : which you will find mentioned in the *Encyclopædia Londinensis*, vol. iii. p. 905. which has been published these twenty-seven years. As a reader of the Magazine, I should hope Mr. Burges's forthcoming recipe for fruit trees may be of a later discovery."

"May 22. 1827.

A CONSTANT READER."

Wyken Pippin.—I think your Buckingham Correspondent (p. 276.) is not correct in naming the pippin, that he tried the experiment upon, the Wyker Pippin ; I have no doubt it should have been Wyken Pippin ; a most excellent apple, which I am sorry is not more known. The original

tree, or the trunk of it with a strong sucker from the root, is now alive, (though very old,) at its native place, Wyken, near Coventry. It was there the seed was planted by a Lord Craven, who brought it from a fruit he ate on his travels from France to Holland, a sort of Golden Pippin. Its fine flavour induced him to save the seed to plant in his own garden, and at this time every garden near the place has at least from two to twelve trees of this sort; in short it is the only table fruit that is taken to the neighbouring market towns. I am induced to give you this short history of it, in the hope it will, in your Magazine, meet the eye of the lovers of good apples, and, through that means, get more into general cultivation. Mr. Stowe should recollect that it is no uncommon thing to see one tree in an orchard very much loaded, and the others round it but very thin of fruit, without any sort of covering whatever, and I think his plan more likely to be of use to peaches and nectarines, than to apples, as they are much sooner in blossom, and much more tender.

Combe Garden, May 2. 1827.

J. OLIVER.

The name was properly spelled in Mr. Stowe's letter, but on finding it with an *r* in the *Fruit Catalogue of the Horticultural Society*, we concluded the latter to be the right spelling. All such corrections are most desirable, and when accompanied by historical traits, as in the present case, interesting. (Cont.)

ART. XV. *Biography.*

JOHN TRADESCANT (*fig. 132.*), gardener to Charles I., and a contributor to the study of natural history in the 17th century, was, according to Wood, a Dutchman. He is supposed to have arrived in this country about the time of Elizabeth, and to have been for a great length of time in the service of the Lords Salisbury and Wooton. He travelled over a great part of Europe, and into the Eastern countries, chiefly with a view of improving himself in natural science. He was the first man in the kingdom that distinguished himself as a collector of natural and artificial curiosities, and was followed by his son, also a physic gardener at Lambeth, in the same pursuit. He, as Parkinson informs us, introduced a considerable number of exotic plants into England, and made it appear that, with due care and cultivation, almost any vegetable of the known world may be made to thrive in this climate. This, and more, may be learned from Dr. Ducarel's curious letter to Dr. Watson, in vol. lxiii. of the *Phil. Trans.* His son took a voyage to Virginia, from whence he returned with many new plants; and both father and son introduced several plants, one genus of which, *Tradescantia*, now bears their name. Tradescant's Museum, at that time called Tradescant's Ark, attracted the curiosity of the age, and may be considered as the parent of this description of collections in Britain. (C.—*Norwich.*)

ART. XVI. *Obituary.*

DIED at his son's house, the Craven Arms Hotel, Coventry, in January last, Mr. John Whitlock, aged 87 years. He was apprenticed to His Grace the Duke of Devonshire's gardener at Chiswick, remained at that place and Chattlesworth for several years, and was afterwards many years head gardener to Lord Kilmorey. He was well known in Huntingdonshire and Lincoln; and the latter part of his time, until he retired to live with his son at Coventry, he was in partnership with Mr. Bagley, nurseryman, Chelsea. His extensive memory and professional abilities as a gardener were seldom surpassed, and not often equalled. (*J. Oliver, Combe Garden, May 2. 1827.*)

In May, by a fall from his chaise, Mr. Bannerman, of the Walton Nursery near Liverpool; much esteemed and respected, as a man and as a tradesman.

Notices.

SOME communications on the Corn Laws, and others relative to breeding of Cattle, working the Ox, &c., we consider as too agricultural for our Miscellany, and have, therefore, sent them to Fleming's British Farmer's Magazine. A principal object in some of these letters seems to be, to ascertain our particular opinion on the subjects treated of; and, in case this should be any gratification to their writers, we shall shortly state, that, as to the Corn Laws, we consider the question, in the abstract, as simply a trial of strength between land and labour—between those who live on rent, and those who live by the work of their hands or their heads; and, therefore, looking upon the farmer as a wholesale labourer, we consider it as much for his interest that the Corn Laws should be repealed, as for the interest of the manufacturer, the artisan, or the man of all work. On breeding we have already given our opinion (p. 456.); and with respect to the advantage of working oxen, it may be deduced from the history of the practice in all countries,—that it only answers where the price of every description of labour is low.

On the subject of accenting the scientific names of plants, and adding their English names, we have only to refer to p. 447.

*A Kalendarial Index to this and the first volume will be found after the General Index. In future, a kalendarial arrangement of the contents of each Number will be given on the cover, and a General Kalendarial Index at the end of the volume. We cannot, with some correspondents, see that it would be of advantage to our readers, to give a perpetual gardener's kalendar, in the permanent pages of the work. We are almost inclined to think it might do harm, by lessening the vigilance and self-dependence, if the expression may be used, of practical men. No good gardener will ever be a slave to his kalendar; for which reason Mr. M'Phail published what he with great propriety called a remembrancer; and a duodecimo 2s. work, under the title of *The Gardener's Remembrancer*, by Abercrombie, may be considered as the ultimatum in this kind of writing, and quite kalendar enough for the best or the worst of gardeners or amateurs.*

Part IV. ADVERTISEMENTS, &c. will in future be discontinued, and, instead thereof, an additional sheet devoted to Advertisements, which may or may not be bound up with the work, at the option of subscribers. This arrangement will be for the obvious advantage of our readers; and the more, early gratification of our correspondents.

INDEX.

- A**CCLIMATING exotic plants, examples of, in the Botanic Garden of Edinburgh, 239.
 Acclimating plants from China, 123.
Acer campestre, remark concerning, 425.
Achillea millefolium, medicinal virtues of, 162.
 Adams, Mr. John, Results of an experiment to destroy the *Aphis lanigera*, or American Blight on fruit trees, 49.
Ethusa cynapium, its poisonous qualities illustrated, 337.
 Agricultural Associations, details of, by Mr. Allen, 327; exemplified in the Netherlands, 330.
 Agriculture et Jardinage enseignés en 12 leçons, 78.
 Agriculture in Spain, 86.
 Agricultural Labourers, note on their improvement, 24.
 ———, remarks on their character and condition, 177.
 ———, of England and Ireland compared, 182.
 ———, remedy for evils in the present state of, 183.
 Agricultural Penance in Italy, 86.
 ——— Population, means of supplying them with employment, 321.
Agrimonia Eupatoria, medicinal virtues of, 162.
 Agronome, on the use and abuse of salt in gardens, 304.
 ———, remarks by, respecting salt as a manure, 163.
 Allen, Mr. Thomas, F.H.S., on raising plantations of oak from the acorn, 277.
 Allen's Colonies at Home, &c. reviewed, 321.
Allium neapolitanum, 452; vinefile, and oleaceum, medicinal virtues of, 161.
Althæa officinalis, medicinal virtues of, 162.
Amaryllis Sarniensis, or Guernsey Lily, on the cultivation of, by T. A. Knight, Esq. F.R.S., 185.
Amaryllis vittata, query by J. Groom, Esq., 254.
 America, opinions respecting, 456.
 American Aloe, 95; in the open garden, 351.
 American Blight (*Aphis lanigera*) on fruit trees, result of an experiment to destroy, by Mr. John Adams, 49.
 ——— on apple trees, on the destruction of, by A. W., 49. — See *Aphis lanigera*, 50.
 American fruits transmitted to the H. S. of London, by Mr. M. Floy, C.M. H.S., 415.
 ——— plants, list of some very select species, by Mr. Goldie, 130.
Amomum Plinii, notice respecting, 378.
Anagallis arvensis, medicinal virtues of, 162.
Anastasia hierochuntica, Rose of Jericho, 357.
 Anderson, Dr. James, his recreations in agriculture quoted, 155.
 Andrews, Mr. of Vauxhall, market-gardener, life and death of, 381.
 Andrews, T., Esq. of Coggeshall, his opinion on the use of salt, 3; notice of his life and death, 255.
Anethum fœniculum, medicinal virtues of, 162.
Angélica Archangélica, medicinal virtues of, 162.
 Annuaire de la Société Royale et Centrale d'Agriculture de Paris, notice of, 342.
Anthémis nobilis, medicinal virtues of, 162.
Aphis lanigera, destruction of, by soot and salt, 50; by the Chelsea apple powder, 50; mode of destroying in Upper Canada, 50; on the destruction of, by A. W., 49; an effectual method of destroying, by Mr. James Dann, 165; results of an experiment to destroy, by Mr. John Adams, 49.
 Apple and berry-bearing trees, proposal of Dr. Crants for their culture as affording spirituous liquors, 444.
 Apple and Quince Hybrid, query respecting, 124.
 Apple, Caldwell variety, 464.
 ———, Reinette de Canada, 92.
 ———, Siberian Bittersweet, notice of, by T. A. Knight, Esq. F.R.S., 432.
 Apples, large, 92.
 ———, list of some American sorts sent to the garden of the H. S., 415.
 ———, second crops of, 92.
 ———, to preserve from canker the Golden Pippin, and other sorts, by John Williams, Esq. of Pitmaston, C.M. H.S., 430.
 Apprentice, remarks by, on the use of the term labourer by the H. S., 106.
Arachis in the Glasgow Botanic Garden, notice, of and figure, 355.
Aracaria & *Cunninghamia*, propagation of, 409.
 Arboretum of Messrs. Loddiges, notice of, 35.
Arbusculensis, notice of, 230.
 Architectural Improvements, notice of, 475.
Arctium lappa, medicinal virtues of, 162.
 Ardbraccan, Meath, some account of, 150.
Aristotelia macqui, remark concerning, 426.
 Artificial Pastures, short history of in Britain, 68.
Arum maculatum, medicinal virtues of, 162.
Arundo donax, a remarkable specimen of, at Basle, 225.
Asclepias tuberosa, culture of, 379.
 Ash trees destroyed by salt, 165.
 Asparagus, mode of forcing, in Denmark, and in the Garden of the H. S., 358.
 ———, on a method of growing, in single rows, by Mr. Andrew Dickson, F.H.S., 204.
 ———, on the culture of, by J. O. S. P., 278.
Asplenum scolopendrium, medicinal virtues of, 162.
 Associations Agricoles, Essai sur les, 77.
 Associations, interesting, sources of, afforded by plants, 227.
Aster Argophyllus, or Musk Plant of New Holland, query respecting, 122.
 Atkinson's improved melon pits described, 202.
 Atkinson, Wm. Esq. F.H.S., his improvements in the construction of hot-houses, 200.
Atrépa belladonna, its poisonous qualities, 211.
 Auchadanach orchard, 32.
 Auchnacalick Gardens, in Staffa, 32.
 Audibert, M., his cultivation of the *Hydrangea* at Paris, 59.
 Aulagnier's *Aperçu sur la Géologie et l'Agriculture*, &c., 78.
 Ayrshire Horticultural Library, 100.
 Ayrshire Rose, query, 124.
 Baas, Robt., Esq., on the culture of the *Cotéve Tronchuda*, 435.
 Balsam, on propagating, by cuttings, 47. 482.
Banksia, on propagating the different species of, 26.
 Bannerman, Mr., of the Walton Nursery, notice of his death, 487.
 Barclay, Robt., Esq. F.L.S., H.S. catalogue of plants introduced by him, 297. 449.
 Bard's *Minéralogie Populaire*, 77.
 Barley, a field of, near Dundee, reaped in December, 240; query respecting, 379; to prepare as a substitute for rice, 467.
 Baron's Notice sur la Grande Boulangerie établie dans la plaine de Grenelle, auprès de Paris, 78.

- Bauman, Mr. N., on the culture of the Mushroom at Vienna, 407.
- Beau-Parc on the Boyne, some account of, 150.
- Bechstein's Natural History of the Native Timber Trees of Germany, 343.
- Bee Combs, method of extracting the wax from, 477.
- Bee-hive, Polish or *Pasieka*, recommended, 453.
- Beet, Sea, *Béta maritima*, as a substitute for spinach, 436; common Beet sown as spinach, 436.
- Behlen's Natural History of the Animals which live in the German Forests, &c. 343.
- Ben Nevis, garden of, 32.
- Berberis aquifolium*, in the open garden at New York, 350.
- Bernhardi et Volker's New Garten-Magazin, Part V., noticed, 79.
- Bevan's Honey Bee, (*advertised*), 384; reviewed, 453.
- Bird-catching by intoxication, notice of, 463.
- Birds, to deter, by smells, 463.
- Blackbird, American, hints for the introduction of, 480.
- Black Insect on cherry trees, to destroy, 121.
- Blaikie, Thomas, Esq. C.M.H.S., scheme of a succession of Crops for one hundred acres of arable land in Picardy, 13; his method of planting trees, 83.
- Blaine's Veterinary Art, (*advertised*), 128.
- Bliss's Fruit-grower's Instructor, (*advertised*), 127.
- Blocks of Stone for building into garden walls, 431.
- Bones as Manure, by the late excellent Major Cartwright, 236.
- Booker's Limekiln, described and figured, 400.
- Books advertised for January 1827, 125; for March, 356; for May, 382; for June, 48.
- Books, reviewed or noticed, American, 1827, for May, 344.
- , British, 1827, January, 72; for March, 205; for May, 333; June, 448.
- , Danish and Swedish, 1827, January, 81; for May, 344.
- , Dutch and Flemish, 1827, for May, 344.
- , French, 1827, January, 77; for March, 214; for May, 341.
- , German, 1827, January, 79; for March, 218; for May, 343.
- , Italian, 1827, January, 81; for March, 219; for May, 344.
- , List of, for garden and village libraries, 371.
- , preparing for publication, for January 1827, 82; for March, 220; for May, 345.
- , reviewed, for January 1827, 51; for March, 177; for May, 321; for June, 414.
- , value of, illustrated by an anecdote of Miss Bengier, 496.
- Borecole, *See* Cabbage.
- Borrowdale, Mr. John, on the propagation and early fruitfulness of the fig-tree in pots, 35.
- Bostrichus piniperda, its havoc on pine and fir plantations in Ireland, 355.
- Botanic Garden of Basle, 225; of Brussels, 87; of Bury St. Edmunds, some account of, by N. S. Hodson, A.L.S., 236; of Edinburgh, rare plants in flower in Sept. 1826, 101, — in December 1826, 239, — in March 1827, 353; of Buenos Ayres, notice of, 91.
- Botanical Gardens of Spain, 393; Cadix, 394; of Lucar de Barrameda, 395; of Alicante, 395; of Muchamiel, 395; of Penacerrada, 396; of Valencia, 396; of Puzol, 397; of Barcelona, 398.
- Botanical and Agricultural Society of Louvain, notice of their meeting in February 1827, 349.
- Botanical and Horticultural Society of Durham, Northumberland, and Newcastle-upon-Tyne, origin and objects of, 229; prizes given in 1825 and 1826, 91; medal of this society, 229; remark on their proposed garden, 230; meeting for May 1827, 471.
- Botanical Associations, 227.
- Botanical Cabinet, for December 1826, review of, 72; for January and February 1827, 206; for March and April, 334, 335.
- Botanical collectors, society for sending out, at Esslingen, 219.
- Botanical Magazine, for December 1826, review of, 72; for January and February 1827, 205; for March and April, 333.
- Botanical names, remarks on their accentuation and derivation, &c., 447.
- Botanical Register, for December 1826, review of, 72; for January and February 1827, 205, 206; for March and April, 334.
- Botanical works published at Brussels, 88.
- Botanical work, rare, (*advertised*), 382.
- Botany, advantages of studying, according to the natural system, 301; comparison of the Linnean and natural systems, 301; of Prussia, correction of our review of, 85.
- Boulevards of Brussels, 87.
- Boursault, M., notice of rare plants which have flowered in his garden, 60.
- , M., notice of his gardens, 223.
- Boyce, Mr., his remarks on warming and ventilating buildings, 156.
- Braddick, John, Esq. F.H.S., account of the Henri Quatre, Urbaniste, and other new pears, introduced and fruited by him, 39; his list of select new pears, 159.
- Brassicæ costata*, or Portugal borecole, culture of, by Robert Baas, Esq., 435.
- family, on saving the seeds of, 265; law suit respecting, 265.
- Bread-fruit tree, hints as to trying in the open air, 381.
- Breeding of animals, opinion on, 488.
- Brereton, the Rev. C. D.'s pamphlet on agricultural labourers, quoted, 55.
- Brewing, note respecting, 22.
- British Farmer's Magazine, for November 1826, review of, 73; for February 1827, 207; for May, 455.
- British Flower Garden, for December 1827, review of, 72; for January and February 1827, 206, 207; for March and April, 335; for May and June, 452.
- British wines, criticism on the mode of manufacturing recommended by the Caledonian Horticultural Society, 485.
- Broccolis, difficulty of saving the seeds of, true to their kinds, 265.
- Broom, notice of, grafted on the Laburnum, 61; white, of the Canary Islands, 462.
- Brown, Mr. Samuel, of Haddington, the inventor and founder of village libraries, 376.
- Brugmansia arborea, more correctly B. candida, on the culture of, by Mr. James Gibson, 145.
- , its culture in the open air in Germany, 459.
- Brussels Society of Flora, notice of their meeting in February 1826, 349.
- Buckingham House, palace and gardens, notice of the improvements now in progress, 371; good taste of the garden front of the palace, 371; bad taste of the artificial hill, 372; unwholesome situation, 371.
- Bucknall's Orchidist, (*advertised*), 127.
- Budding, criticism on, 484; of roses, described as practised at Brussels and Rouen, 191.
- Bulbiferous plants, experiments on the growth of the foliage of, by Anthony Todd Thomson, M.D., 283.
- Bulletins d'agriculture et de commerce de Savoie, &c., 78.
- Buonaparte juncea, now Lytta's geminifera, 96.
- Burial in a ploughed field, 481.
- Burnard, J. P., Esq., his remarks on the policy pursued in the management of the King's botanic garden at Kew, 313.
- Busch, Mr. John, gardener to the Empress Catherine of Russia, notice of, 386.
- , Mr. Joseph, C.M.H.S., gardener to the Emperor of Russia, 386.
- Butter nut, Caryocar nuciferum, described, 333.

- Cabbage, early emperor variety, its superior excellence, 363; Portugal, or Coëve Tronchúda, 434; Vanack, 435; Neapolitan Borecole, 436.
- Cactus heptagonus, a remarkable specimen of, at Basle, 225; Napoleónis, 65.
- Caledonian Gardeners' Society, annual meeting of 1826.
- Calés's instructions sur le parage des moutons, &c., notice of, 344.
- Calvert, Mr., of Rouen, an improvement by, in the grafting of roses, 192.
- Camélias, double, on an improvement in the propagation of, by Mr. William Pike, 33.
- oleifera, as a substitute for the olive in the south of Europe, 455.
- Camélias, description of five very fine new sorts raised by Mr. Press, 358.
- new seedlings from the Comte de Vandes's garden, 230, 356.
- notice of sorts which have flowered during the winter in the open ground near Woking, by Mr. Donald, F.H.S., 358.
- Cameron, Mr. David, catalogue of plants introduced into this country by Robert Barclay, Esq., and now growing in his garden at Bury Hill, Surrey, 297.
- Mr. John, his remarks on the establishment of a horticultural society in the Highlands of Scotland, 31.
- Campbell, Mr. Alexander, on the culture of the garden hyacinth, 411.
- Cappeau's Traité de la Législation Rurale et Forestière, 77.
- Carnations, &c., catalogue of, by Thomas Hogg, reviewed, 75.
- Carnations and picotees, Mr. Hogg's prices of, 75.
- extraordinary increase of, by seed, 232.
- Carr, John, Esq., his communication on Mr. William Pike's improvement in the propagation of the double camellia, 33.
- Carrots, several extraordinary ones, 93.
- Catalogue of plants introduced into this country by Robert Barclay, Esq., and now growing in his garden at Bury Hill, Surrey, by Mr. D. Cameron, 297.
- Caterpillars, annual edict by the government of the Netherlands respecting, 346.
- ants, worms, &c., criticism on Mr. Burger's recipe for destroying, 486.
- on mignonette, to destroy, 484.
- Catherine II. of Russia, her taste in gardening, 386.
- Cedars of Lebanon, account of the growth of some at Hopetoun House, by Mr. J. Smith, C.M.H.S., 418; at Moor Park, in Hertfordshire, 418.
- Celeriac, on the cultivation of, as practised in Denmark, by Mr. J. P. Petersen, 415.
- Celery, a head of, weighing six pounds, 93; an improved method of growing, by Mr. George Gledston, 157.
- Ceratonia siliqua, or St. John's bread, culture and use of, in Spain, 86.
- Cercis siliquastrum and Canadensis recommended, 33.
- Cereal grasses of Europe, different species and varieties of, 343.
- Chamaerops humilis, in the Botanic Garden of Berlin, history of, 446.
- Chasse aux Oiseaux, &c., secrets de la, 78.
- Chelsea apple-powder, for the destruction of A'phis lanigera, its ingredients, 50.
- Cherry, Barandam variety, described, 483.
- Chicory, see Succory, 460.
- Chimonanthus fragrans, specimen at Edinburgh, 467; strongly recommended, 242.
- Chinese scenery, plants, and gardening, observations on, by Mr. Main, 136.
- Chrysanthemums, account of several new Chinese and Indian, &c., by Joseph Sabine, Esq. F.R.S., &c., 194.
- Chrysanthemums, Chinese, in the garden of the Horticultural Society, account of the cultivation of, by Mr. Donald Munro, F.L.S., 197.
- Churchill, James Moss, Esq., surgeon, and John Stephenson, Esq., M.D., Medical Botany, &c., No. 1., reviewed, 211.
- Cineraria cruenta, on the cultivation and improvement of, by Mr. James Drummond, 153.
- Cineraria, culture of the different species, by Mr. P. C. Bouché, 446, 151.
- Cistaceæ, for November 1826, review of, 72; for January 1827, 207; for March, 335.
- Clare, Joseph, Esq., on the cultivation of Nebelwies in Italy, 428; on the gardens of Monza, 459; suggestion as to the culture of Camélias oleifera, 455.
- Clegg, Joseph, and John Winstanley, their account of the different flower-shows held in Lancashire, Cheshire, Yorkshire, &c. in 1826, reviewed, 73.
- Cleghorn's Thoughts on a General Provident Institution for the Working Classes, reviewed, 321.
- Climbing plants, exotic and hardy, remarks on flowering, in pots, by Mr. Robert Reid, 16.
- Cline, Mr., the celebrated surgeon, his opinion on the use of salt in agriculture, 3, 5.
- Closen's Agricultural Education at Gern, notice of, 219.
- Coal ashes and salt, account of some experiments with, by Alfred, 408.
- Coal gas, explosion of, in a hot-house, 466; its influence on vegetation, 353.
- Coal smoke and gas manufactory near Warriston Garden, Edinburgh, notice respecting, 353.
- Coccus cacti, the Cochineal insect, 442.
- lanigera, or mealy bug, on plants in pots and vines, on the destruction of, by Mr. James Strachan, 166.
- Coffee, culture of, in Malacca, 462.
- Cold, extreme degrees of, during night, for 1826, 231.
- Cole, in Argyleshire, gardens of, 32.
- Collection of florist's flowers at Coggeshall, (advertised), 126.
- Collins, W. Esq., surgeon, on salt as a manure, &c., 160; Ten Minutes' Advice to my Neighbours on the Use and Abuse of Salt as a Manure, 212.
- Colvill's "Catalogue of Plants," reviewed, 454.
- Conium, the hemlock, its poisonous and medical qualities, 455.
- Conservatory at the Grange, description of, by Messrs. Jones and Clark, 170.
- ashes, convenient mode of opening and shutting, exemplified, 369.
- Convulvulus sepium, its medicinal qualities, 211.
- Cooper, Mr. Joseph, C.M.H.S., on the cultivation of Hedychium, 420; his suggestions for an improvement in the Gardener's Magazine, 420.
- the Rev. Blakely, A.M., plan for forcing vines in borders, under glass, 431.
- Cordier's Guide de l'Amateur de Champignons, &c., 78.
- Corn Laws, opinion on, 488.
- Salad, Italian, 437.
- Corypha umbraculifera, Tallipot tree, 95.
- Cottage Associations, &c., details of, 328.
- Economy, 478.
- premium for the neatest kept, given by the Highland Society of Scotland, 239.
- Cottages, on choosing a situation for, and constructing, 478.
- Country Labourers, an account of a successful experiment made, with a view to ameliorate their condition, by W. H. Moggridge, Esq., 19.
- Coëve Tronchúda, or Tranxuda, 434.
- Covent Garden Market, report for December, 1826, 106; February, 1827, 243; April, 362; June, 475.
- Crants, Dr., on the culture of apple and berry-bearing trees, as affording spirituous liquors, 444; opinion on this subject, by M. Schulz, 445.
- Cress, Golden, 437.

- Criticisms, Retrospective**, by Mr. Green, 485;
A Constant Reader, 486; Mr. J. Oliver, 487.
- Crops for one hundred acres of arable land in Picardy**, scheme of a succession of, by Thomas Blaikie, Esq. C.H.M.S., 13.
- Cróton tiglium**, its medical qualities, 211.
- Crowe, Mr.**, of Kensington, his mode of modeling estates, notice of, 233.
- Cucumbers and melons**, Mr. Haythorn's flued pit for, described and figured, 280.
- Cucumber**, art of promoting the growth of, by Thomas Watkins, (*advertised*), 356; a prodigious, 931; cultivation of, at Thoresby Gardens, Nottinghamshire, by Mr. Thomas Parkin, 320.
- **bed**, movable, query by Thomas Hawkins, 256.
- Cucurbita claviformis**, or club-shaped gourd, 92.
- Culinary vegetables**, on the best mode of growing such as are raised annually from seed, by Mr. W. B. Rose, 274.
- Culture of North American Plants**, including Ferns, by Mr. John Goldie, 129.
- Cunninghamia, Araucaria, and Pinus**, on the propagation of, by Mr. Stewart Murray, C.M.H.S., 409.
- Cunninghamia**, notice of the name, &c., 450.
- Curtis's Botanical Magazine**, for December 1826, reviewed, 72; for January and February 1827, 205; for March and April, 333; for May, 448; for June, 448; (*advertised*), 382.
- **Observations on British Grasses**, (*advertised*), 127.
- Cushing, J.**, the Exotic Gardener, noticed, 75.
- Cyclamen persicum**, culture of, by Mr. John Wilmot, F.H.S., 378.
- Cydonia japonica**, recommended, 34.
- Daniel's Rural Sports**, (*advertised*), 384.
- Dann, Mr. James**, an effectual mode of destroying the *Aphis lanigera*, or American blight, on fruit-trees, 165.
- Datura stramonium**, its poisonous and medical qualities described, 337.
- Dean, William**, his account of the different gooseberry shows held in Lancashire, Cheshire, &c. for 1826, reviewed, 73.
- Delamarre's, Traite pratique de la culture des Pins à grandes dimensions**, &c., 78.
- Delicæ Sylvarum**, notice of, 220.
- Delpierre's, Nouveau guide du Fermier**, 78.
- Dendrometer**, description of, by Archibald Gorrie, C.M.H.S., 8; notice of one, by Mr. J. Rodgers, 13.
- Der Landmann als Thierarzt, bei Krankheiten der Pferde**, &c., 81.
- Designs for Agricultural Buildings**, &c., by Charles Waistell, Esq., reviewed, 212.
- Désormeaux's Amusemens de la Campagne**, noticed, 214.
- Dickson, Mr. Andrew**, F.H.S., on a method of growing asparagus in single rows, 204.
- Diel's system of the classification of fruits**, 445.
- Dieterich's Katechismas der Pferdezucht**, &c., 81.
- Directoire of France**, a farming scheme by, 14.
- Dissecting leaves**, remarks on, 253.
- Dombasle's Annales Agricoles de Roville**, notice of, 77.
- Domestic Economy**, 477; notices, 229.
- Don, Mr. George**, his Monograph of Allium, 452.
- Doub Grass**, *Cynodon dactylon*, described and figured, 252.
- Doublat of the Vosges**, notice of his gardens, 223.
- Douglas, Mr. David**, his adventures in North America, 297; rare plants sent home by, 442.
- Drummond, Mr. James**, A.L.S. C.H.M.S., &c., on the cultivation and improvement of *Cineraria cruenta*, 153.
- Duff, Mr. Christie**, C.M.H.S., on the cultivation of ginger in a glazed pit, 191.
- Duncanson, Mr.**, a young gardener at Kew, of great talents for drawing and botany, 449.
- Dunolie Gardens**, near Oban, Argyshire, 34.
- Early Spring Salad**, mode of raising in Flanders, 400.
- Edible Plants of the North American Indians**, 228.
- Edifices**, list of those figured in Vol. II. of the Gardener's Magazine, viii.
- Edinburgh Green Market**, 240.
- Education of Gardeners**, remarks on the importance of, 109—113.
- Edwards's Botanical Register**, for December, 1826, reviewed, 72; for January and February, 1827, 205, 206; for March and April, 334; for May, 450; (*advertised*), 127.
- **Square**, Kensington, 47.
- Emigration**, as compared with home colonization, 236.
- Employment of time**, 377.
- Endive**, structure for the protection of, by Mr. Anderson, F.H.S., of Cashibury, 417.
- Eriobotrya Japonica**, the Loquat, treatment of, 234.
- Erythrina Crista galli, Salvia splendens, and Fuchsia gracilis**, hints for cultivating, by Mr. Robert Reid, 16.
- Estates or Landscapes**, models of, (*advertised*), 356.
- Evesham Flower and Fruit Society**, notice of its establishment and objects, 361.
- Exotic Gardener**, by J. Cushing, noticed, 75.
- Exotica**, exhausted, mode of recovering in the Botanical Garden of Berlin, 347.
- Experimental Farm**, proposed one in Dublin, 103.
- Faldermann, Mr. F.**, C.M.H.S., on the propagation of *Zamia*, 425.
- Fan Grove**, Sir Herbert Taylor, notice of, 368.
- Farming in Susquehanna**, by R. H. Rose, Esq., 350.
- Fattore di Campagna**, notice of, 219.
- Feather Grass**, *Stipa pennata*, curious phenomena of the seeds, 354.
- Fellenberg, M.**, his establishment at Hofwyl, visited by John Murray, Esq., F.A.S., L.S., H.S., G.S., &c., 347.
- Felton, T.**, Esq., notice of, 480.
- Feltoniana**, 480.
- Ferns**, hardy species, list of, by Mr. Goldie, 134.
- Field crops**, scheme for a succession of, 13.
- **work**, table of, for every month in the year, 14.
- Figs**, account of a method of forcing, by Joseph Sabine, Esq. F.R.S., 198.
- Fig tree in pots**, on the propagation and early fruitfulness of, by Mr. John Borrowdale, 35.
- Filicum Rariorum**, of Dr. Hooker and Dr. Greville, notice of, 82.
- Finlayson's British Farmer**, reviewed in British Farmer's Magazine, 457.
- **Harrow and Grubber**, described and figured, 249.
- Fion, M.**, a celebrated cultivator of orange trees at Paris, 59.
- Flavell, Mr. William**, on the plan of closing the smoke-flues of hot-houses, &c. that are heated only in the daytime, for the purpose of preserving a warm temperature during the night, &c., 151.
- Fleming's British Farmer's Magazine** for November, 1826, reviewed, 73; for February, 1827, 207; (*advertised*), 384.
- Flora Australasia**, &c., by Robert Sweet, No. I for June, 1826, reviewed, 336.
- Florence**, questions respecting its gardening improvements, 82.
- Florist and Horticultural Society at Whitehaven**, in contemplation, 230.
- Florists' Club of Pollockshaws**, 465.
- **Cottage**, (*advertised*), 383.
- **Lottery**, suggestions for, 474.
- **Meetings at Worcester in former times**, 473.
- **Society of York**, meeting for April, 1826, 471.

- Flower Book of 1826, reviewed, 73.
 Flowers, art of cutting, so as not to injure the plants, 484.
 —, cut, how to preserve, 378.
 —, double, observations upon the natural laws which govern the production of, arising out of a remarkable case of preternatural formation in the flowers of an *Amaryllis*, by John Lindley, Esq. F.L.S., 191.
 Flower Market of Paris, notice of, 294.
 Flower Show, Amateur, of Lancaster, 473.
 Flower Shows, held in Lancashire, Cheshire, Yorkshire, &c. in 1826, account of, by John Winstanley and Joseph Clegg, reviewed, 73.
 —, suggestions for reporting, 474.
 Floy, Mr. M., C.M.H.S., American fruits sent by him to the Hort. Soc. of London, 415.
 Fontainebleau, pine and cedar trees grafted in, by M. Larminat, 63.
 Forcing Gardens at Potsdam, 85.
 Forest Trees, a Memoir, &c. on the planting and rearing of, by Wm. Withers, jun., Esq., reviewed, 75; details of four experiments on their culture, 75.
 Forrest, Mr. L., C.M.H.S., on the culture of the Mushroom in hot-house sheds, 406.
 Forster's Perpetual Kalendar, (*advertised*), 384.
 France, climate and products of, compared with those of England, 222.
 Fraser, Mr. James, on the present state of gardening in Ireland, with hints for its future improvement, continued from Vol. I. p. 265, 147.
 French Gardening Instruments, notice of places where they may be purchased, 66.
 Fromont Nursery Establishment, notice of, 59.
 Frost, John, Esq., F.A.S., L.S., H.S., &c. &c., notice of his introductory lecture on botany, 345.
 Fruits and Seeds, remarks on the general principles of choosing and preserving, 317.
 Fruits, cultivated in Europe in the order of their affinities, 209.
 —, cultivated in the garden of the Horticultural Society, catalogue of, reviewed, 208.
 —, list of those figured in Vol. II. of the Gardener's Magazine, viii.
 —, newly raised, observations on their qualities exemplified in plums, by T. A. Knight, Esq., F.R.S., and P.H.S., 428.
 —, notice of new or remarkable varieties, &c., 204.
 —, on their classification, by Counsellor Burckhardt, 444.
 —, principles of raising new sorts from seeds, laid down by M. Van Mons, 62.
 Fruit-trees, notice of a wild speculation for perpetuating good sorts from seed, 357.
 —, on the good effects of protecting the stems, by William Howe, Esq., 275.
 —, on the importance of adopting and pursuing a proper plan for pruning and training, by Mr. Alfred Kendall, 140.
 —, recipe for washing the branches of to destroy insects, 430.
 Fuchsia cónica, 450.
 Fuchsia grácilis, *Erythrina Crista galli*, and *Salvia splendens*, hints for cultivating, by Mr. Robert Reid, 16.
 Fuchsias, on the cultivation of, by Mr. James Smith, 426.
 Gacon-Dufour's, Manuel complet de la Maitresse de Maison, 18.
 Galárdia bicolor, *Asclépias tuberosa*, and *Oenothera caespitosa*, query by a constant reader, 254.
 Galb's Anleitung für der Landmann, &c., noticed, 81.
 Garcinia mangostana, fruit produced by, in the garden of M. Bourneault, 223.
 Gardeners and their Employers, on the relative duties of, by G. P. R., 293.
 Gardeners' Apprentices and Journeymen, on the treatment which they receive from master gardeners, by a nobleman's gardener, 266.
 Gardener's House, excellent one at Worksop Manor House, and at Syon, 103.
 Gardeners, on the remuneration of, including some remarks on their education and emigration, by W. R. G., 27.
 Gardeners out of place, on the treatment of by nurserymen, in reply to the observations of Sensitivus, by a nurseryman, 268.
 —, on the treatment which they generally receive from the nurserymen, &c., by Sensitivus of Yorkshire, 36.
 Gardening Amateurs of Paris, notices of some, 53.
 Gardening and Agricultural works by Messrs. Longman, Rees, and Co., (*advertised*), 283.
 Gardening and Botany of Spain, by Professor La Gasca, 393.
 Gardening improvements in France, 83.
 Gardening in Ireland, on the present state of, with hints for its future improvement. Continued from Vol. I. p. 265, by Mr. James Fraser, 147.
 Garden, ancient painting of, described, 481.
 Garden and Park of Yelagen Island in the Neva, 387.
 Garden Antiquities, 481.
 Garden Basket for nailing trees, notice of, 66.
 Garden in ruins, notice of, by Mr. Cameron, 32.
 Garden Library, catalogue of books for, 108; elementary books, 114; professional books, 118; professional periodicals, 118.
 Garden Libraries established, 243; at Clapton, 244; Welbeck, 245; Walton, 246; Northwick Park, 247. 373; Shobden Court, 373; Foxteth Park, 373; Mistley Hall, 373; hints for their formation and support, 377.
 —, presents of books to, 247.
 —, suitable books for the second class, 247; for the third or lowest class, 247.
 Garden of the Marble Palace at Potsdam, 85; of the Prussian Gardening Society, Berlin, by L. Taylor, 84.
 Gardens of the Zoological Society in the Regent's Park, 352.
 Gardens, remarks on laying out, 254.
 Gardens and Parks, plans of, list of those given in Vol. II. of the Gardener's Magazine, viii.
 Gardens, Botanical, see Botanic Gardens.
 —, Imperial of Txasco Celo and Taurida, some account of, 385.
 —, notices of those of Dunolie, Auchnaclich, Auchadanach, Tobermory, Cole, Ben Nevis, 32.
 Gardens of cottagers, on improving, by Mr. William Wilson, 371.
 Gardens, small, laying out and planting, 253.
 —, system of cropping, query respecting, 121.
 Garden walls, blocks of stone for building into, 481.
 —, composition for blacking, 421.
 Garden wall, description of an improved, by J. A. B., Esq., 7.
 Garden walks, on blacking, by Mr. C. Harrison, F.H.S., 421.
 Gauen's early cucumber, (*advertised*), 125.
 Gaulthéria Scillon, and other rare plants in the Botanic Garden of Glasgow, 102.
 Geel's Sertum Botanicum, notice of, 544.
 Geological and historical observations on the eastern valleys of Norfolk, by J. W. Robbards, jun., reviewed, 211.
 Geraniaceæ, for December, 1826, review of, 72; January and February, 1827, 206; for March and April, 335; for May and June, 452.
 Gibson, Mr. James, on the culture of *Brugmansia arborea* (cándida), 145.
 Gilbert's, Traité des Prairies Artificielles, &c., 77.
 Ginger, on the cultivation of, in a glazed pit, by Mr. Christie Duff, C.M.H.S., 191.

Glass case, temporary, notice of March Soc. to be built into walls, 411.
 Graham, Mr. George, his improved method of growing celery, 157.
 Glycine elaeagnifolia, new Wistaria Composita, on its beauty, &c., by Joseph Sabine, Esq., F.R.S., &c., 442.
 Glycyrrhiza glabra, common liquorice, culture of, in Italy, 86.
 Goldham, John, Esq., F.R.S., a distinguished artist, 670.
 Goldie, Mr. John, on the culture of North American plants, including Potatoes, 159.
 Goldworth nursery of Mr. Donald, F.R.S., an example of order and neatness, 171.
 Gooseberries, new sorts of, made public and for sale 74; select sorts for a small garden, 288.
 Gooseberry Book of 1866, reviewed, 73.
 Gooseberry show held in Lonsdale, Cheshire, &c. an account of, for 1866, by Wm. Dunn, reviewed, 73.
 Gordon's Dictionary of Gardening, various statements on the subject of producing variegation in plants, 66.
 Gordon, Mr. Alexander, on the merits and demerits of iron hot-beds for the culture of the pine apple, 391.
 Germanism, in March, some account of, 146.
 Gervin, Mr. Arch., C.M.E.S., his description of a dendrometer, 8.
 ———, on the effects of heat and moisture on vegetation, 418.
 Gould, Mr. Wm., gardener to Prince Potemkin, 353.
 Gourds, large, 82.
 Grafting, dove-tail method, notice of, by Mr. E. Holmes, 439.
 ———, herbaceous, by the Baron de Tschudy, 94.
 Grafting of roots, an improvement on, by Mr. Calvert, of Boston, 139.
 Grandifolia, fruit of, ripened in a constant greenhouse, 232.
 Grapes rich, improvement in blanching, 447.
 Grapes, black Deconnes, mode of setting the fruit of, 88.
 ——— black raisin, description of, &c., by Mr. Isaac Chisholm, F.H.S., 176.
 Grapes and peaches, Mr. Haythorn's structure for, described and figured, 381.
 Grapes, observations on a disease to which they are liable, and on the means of preventing it, by Mr. Daniel Judd, F.H.S., 193.
 Grapes on an open wall in Dublin, 108; ripened in the open air, 98, 100; ripening in the open air in Scotland, 100.
 Quercus ilex, how formed by the Belgians, 227.
 Green lands, best mixture of seeds for, 69.
 Green-house Composita, (advertised), 326.
 Green Market of Edinburgh, 445.
 Green, Mr., of Bear Park, near Leicester, an extensive grower of early potatoes, 47.
 Griffin, Wm., Esq., F.L.S., notice of his life and death, 364.
 Guignier's Recherches historiques et statistiques sur le Marais, &c., 76.
 Gurnea, Mr. H., F.R.S., description of a tulip tree and its uses, 307.
 Gurnea's artist's flower, (advertised), 159.
 Gunpowder House, Major Morrison, some account of, 383.
 Halifax telegraph, recommended, 34.
 Hampton, near Doughty, some account of, 146.
 Harding's Agricultural Library, (advertised), 338.
 Harding, Mr. John, agricultural teacher, St. James's Street, 66 and death of, 381.
 Harrison, Mr. C., F.H.S., on blanching garden walls, 421; on obtaining a second crop of radishes, 414.
 Hartman, Mr. Joseph, on the application of tobacco-water in the destruction of insects, 441.

Hay, James, C.M.E.S., two letters addressed to, to Joseph Sabine, Esq., F.R.S., &c., reviewed, 339.
 Hayne's Treatise on the Strawberry, Raspberry, &c., (advertised), 157.
 Haythorn, Mr. John, C.M.E.S., description of a fixed pit for growing cucumbers and melons, 7.
 H. ——— on 72.
 H. ——— argument in the
 H. ——— cation of, by Mr. 30.
 H. ——— notice of his 418
 H. ——— other new points,
 H. ——— respecting, 493.
 H. ——— notice of their meeting in January, 1867, 339.
 Hodges, M. B., Esq. A.L.S., on the infinite garden of Bury St. Edmunds, 231.
 Hoe-arch, description and figure of, 65.
 Hoing in straight lines, advantages of, 274.
 Hoe, Spanish, 331, recommended, 275.
 Hogg's Carnations, Flowers, Auctions, &c., (advertised), 192.
 Hogg, Thomas, his catalogue of carnations, &c., reviewed, 75; (advertised), 306; his ideas for a new plan of breaking tulips, 46; criticisms on, 379; his opinion on the use of salt, 3.
 Holbe, Thomas, Esq., his burial in a ploughed field, 481.
 Honey Bee, by Dr. Bevan, reviewed, 448.
 Hooker, Dr., and Mr. Lindley, query to, 448.
 Hooker's House, 388.
 Hop shoots, use of, as asparagus, in Flanders, 461.
 Horticultural fancies of the Belgians, 227.
 Horticultural Library of Ayrshire, notice of, 103.
 Horticultural Memorandum Book, description and use of, by a country clergyman, 329.
 Horticultural and Botanical Society of Durham, Northumberland, and Newcastle-upon-Tyne, prizes awarded by, from August 1865 to August 1866, 91.
 Horticultural Society of Aberdeen, prizes presented for 1867, 305; meeting of May 1st, 1867, 448.
 ———, Caledonian, meetings from June to September, 1866, 57; October, 1866, 328; prize subjects for 1867, 327; meeting for March, 1867, 322; April, 424.
 ——— of Dumfriesshire and Galloway, meeting for December, 1866, 30.
 ———, Oron, 68.
 ——— of Glasgow, origin of, and objects, 33.
 ——— Highlands of Scotland, remarks on the establishment of, by Mr. John Cameron, 31.
 ———, Jamaica, notice of their meeting in November 1866, 300.
 ———, Ipswich, meeting for May, 1867, 673.
 ———, Ireland, July meeting, 108; April meeting, 469.
 ———, Lanark, meeting for 4 April and May, 1867, 672.
 ———, London, first report on the experiments carried on in the garden, to March, 1866, 303.
 ———, lists respecting their proposed catalogue of ancient vegetation, 641.
 ———, medals given by, to the provincial sections, 338.
 ———, meetings for Sept. 5, 29; Oct. 2, 17; Nov. 7, 21, 1866, 103; Dec. 5 to Feb. 20, 1867; March 6 to April 17, 220; May, 469.
 ———, notice respecting the defalcation of Mr. Turner, the Assistant Secretary, 108.

- Horticultural Society, London**, remarks on the mode of application for grafts, cuttings, &c., 106; on their designation of gardeners as labourers, 106.
- _____, notices of communications to, not published in their Transactions, 489.
- _____, notices on their garden, 106.
- _____, remarks on their garden at Chiswick, 440; rare plants added to, from Columbia, 442; rules and regulations respecting the sale of fruit and vegetables, 442; rules as to the privileges of subscribers to the garden, 443; list of garden committee, 443; list of garden reports published, 443.
- _____, report of the garden committee on the progress of the garden, reviewed, 441.
- _____, remarks on their garden regulations, 106.
- _____, suggestion as to the form in which their Transactions should be published, 360.
- _____, Transactions of, remarks on the Preface to Vol. VI.; comparison of, with the Gardener's Magazine, 438; review of Vol. VI., Parts IV. and V., 332, 414.
- Horticultural Society's garden**, catalogue of the fruits cultivated in, reviewed, 208.
- _____, plan for the reformation of, 359.
- _____, remarks on, by A Nurseryman, 469.
- Horticultural Society, Montrose**, origin and objects, 99.
- _____, Newcastle-upon-Tyne, see Horticultural and Botanical Society of Durham, Northumberland, &c., 229.
- _____, North British Professional, 465.
- _____, Perth, 466.
- _____, Preston, meetings for April and May, 1827, 473.
- _____, Prussian, meeting, June 1, 1823, 446; of June, 23, 1823, 447.
- _____, Transactions of, reviewed, 444; prizes proposed for the year 1824, 447.
- _____, Ross, 91; meeting for May, 1827, 472.
- _____, Yorkshire, meeting for May, 1826, 471.
- Horticulture and botany of France and England compared**, by Mr. Arnott, 353.
- Horticulture in France**, some account of, by Le Chevallier Soulange Bodin, 222.
- Horticulturists, Chinese**, hint respecting, 492.
- Horticulturist's cottage**, (*advertised*), 382.
- Hortulanus**, on the garden regulations of the Horticultural Society, 106.
- Hortulanus's observations on Mr. Anderson's experiments with peaches and apricots budded on almond stocks**, 168.
- Hortus Berlinensis**, notice respecting, 85.
- Hortus Britannicus Americanus**, sketches towards a, by W. J., M.D., Tiford, noticed, 75.
- Hortus Britannicus, &c.**, by Robert Sweet, F.L.S. &c., reviewed, 207.
- Hortus Gramineus Woburnensis**, by Mr. George Sinclair, F.L.S., H.S., &c. reviewed, 67.
- Hortus Siccus**, by Prof. La Gasca, account of, 220.
- Hot-houses, curvilinear metallic**, by Messrs. Jones and Clark, (*advertised*), 382.
- _____, in regard to humidity, 201.
- _____, curvilinear, on the management of, 200.
- _____, in Syon Gardens, 107.
- _____, iron, for the culture of the pine apple, on the merits and demerits of, by Mr. Alexander Gordon, 291; unfavourable opinion of, by Mr. Macmurtrie, 242.
- Hot-houses, model of a cast-iron plate for the steaming of**, 352.
- _____, on the plan of closing the smoke flues of, that are heated only in the daytime, for the purpose of preserving a warm temperature during the night, &c., by Mr. William Flavell, 154.
- _____, plan for the absorption of heat in, 235.
- House**, bad arrangement of, with reference to the approaches and walks, exemplified, 366.
- _____, situation for, importance of natural features illustrated, 368.
- Hyacinths**, on the culture of, by Mr. Alexander Campbell, 411.
- _____, to improve the size and health of, 232; strong and beautiful, grown at Drum, in Scotland, 464.
- Hybrid currants**, query respecting, 120.
- Hydrangea hortensis**, experiment on changing the colour of the flower, by W. R. Y., 405.
- Hyoscyamus**, its poisonous qualities, 454.
- Jardinier Agronome**, notice of, 215.
- Illustrations of ornithology**, (*advertised*), 126, 128.
- Implements**, list of those figured in Vol. II. of the Gardener's Magazine, viii.
- Improvements**, hints for, 460.
- Insects, black**, on cherry trees, to destroy, 121.
- _____, proposed plan for destroying, 122. See *Aphis lanigera*.
- Instruments**, list of those figured in Vol. II. of the Gardener's Magazine, viii.
- Joanneum de Gratz**, 15th report, notice of, 79.
- Johnson, Mr. Cuthbert William**, essay on the uses of salt, &c., reviewed, 339; letter on the same subject, 339.
- _____, Mr. G. W., on salt as a manure, 1.
- Jones and Clark, Messrs.** description of the conservatory at the Grange, 170.
- Irish Farmer's Journal**, notice of its discontinuance, 240.
- Irish furze, broom, and yew**, 241; where to be purchased, 356.
- Iron hot-houses**, Mr. Macmurtrie's opinion on, 242.
- _____, on their merits and demerits, by Mr. A. Gordon, 291.
- Island of Peacocks**, at Potadam, 85.
- Itinerating, juvenile, and village libraries**, 376; of East Lothian, 376; of Mid Lothian, 376.
- Judd, Mr. Daniel, F.H.S.**, observations on a disease to which grapes are liable, and on the means of preventing it, 190.
- Kalendar, gardener's**, remarks on, 488.
- Kalendarial index**, remarks on, 488, 502.
- Keen's fruit garden, Isleworth**, notice of, 365.
- Kendall, Mr. Alfred**, his method of destroying the red spider, 38.
- _____, on the importance of adopting and pursuing a proper plan for pruning and training fruit trees, 140.
- Kensington Nursery, Messrs. Malcolm and Gray**, notice of, 369.
- Kew Gardens**, hints for establishing a library there, 248; remarks on, 313.
- King's Botanic Garden at Kew**, remarks on the policy pursued in the management of, by J. P. Burnard, Esq., 313.
- Kirschewasser**, an imitation of, in Scotland, 98.
- Knight, T. A., Esq., F.R.S., L.S., Pres. H.S., &c.**, on some new seedling pears, 419.
- _____, on the bitter-sweet apple, 432.
- _____, on the culture of strawberries, 184; on the cultivation of the *Amaryllis Sarniensis*, or Guernsey Lily, 185; on the transplantation of plants with spindle-shaped roots, 199.
- _____, on the qualities of newly raised fruits, exemplified in plums, 428.
- Labourers' institutions**, 373.
- Laburnum seeds**, poisonous to cows, 235.

- Lactuca**, the lettuce, its poisonous and medical qualities, 455.
- La Gasca**, Professor, *Hortus Siccus* by, described and recommended, 220; on the gardening and botany of Spain, 393.
- Lamp**, for keeping the frost out of small green-houses, 123.
- Landscapes**, list of those engraved in Vol. II. of the *Gardener's Magazine*, viii.
- Land steward**, advertisement for a situation, 126.
- Larminat**, his experience in grafting the pine tribe, 63.
- Latham**, Mr. John, his mode of training and fastening the shoots of vines on the roofs of cottages, 43.
- Lathrop's Farmer's Library**, &c., 344.
- Latour**, Mr., notice of his villa at Craven Hill, 369.
- Laurustinus**, notice of one grafted on the way-faring tree, 60.
- Laying out and planting small gardens**, 253.
- La Bon Jardinier** for 1826, by A. Poiteau and Villmorin, reviewed, 58.
- Leek**, prolific, 436.
- Lemna**, or duck's meat, in flower in Scotland, 101.
- Lemon**, M., a noted geranium grower at Paris, 59.
- Lemon tree**, some account of a remarkable one in the garden of C. Hoare, Esq., at Luscombe, Devonshire, by Mr. Richard Saunders, 29.
- Leontodon taraxacum**, its medical qualities, 337.
- Lepinois**, *Petit Cours d'Agriculture*, &c., 77.
- Lettuce**, cabbage, the Perpignan and Montre, 447.
- , union cabbage, 436; black-seeded Gotta, 436; ice, of the United States, 436.
- , sorts of, for small salad, or to be used as spinach, 437.
- , substitute for, in *Picridium vulgare*, 437.
- Libraries**, garden, see *Garden Libraries*.
- , village, see *Village Libraries*.
- Lichtervelde's Bêche**, ou la mine d'or de la Flandre Orientale, 344.
- Lime-kilns**, 399; Booker's, 400; Menteth's, at Closeburn, 400; Heathorn's, 402; Yorkshire, 403.
- , comparative remarks on, by J. C. Stuart Menteth, Esq. 399.
- Lindegaard's culture of the vine in Denmark**, 344.
- Lindley**, John, Esq., F.L.S., Assist. Sec. Hort. Soc., observations upon the natural laws which govern the production of double flowers, arising out of a remarkable case of preternatural formation in the flowers of an *amaryllis*, 191.
- , on Persian melons, 433.
- , on the effect of frost on plants in the garden of the H. S., &c., 421.
- , report upon the new or rare plants which have flowered in the garden of the Horticultural Society at Chiswick from March, 1824, to March, 1825, 186.
- Linnean Botanic Garden**, Flushing, near New York, account of, 90.
- Linnean Society of London**, general report on, 470; *Transactions of*, Vol. XV., Part I., reviewed, 338.
- Linnean Society of Paris**, 84.
- Liquid manure**, on the importance of, by Mr. John Robinson, F.H.S., 18.
- Lochnile**, gardens, 32.
- Loddiges' Botanical Cabinet**, for December, 1826, reviewed, 72; for January and February, 1827, 206; for March and April, 334, 335; for May and June, 451.
- Loddiges**, Messrs., of Hackney, origin and date of their nursery, 386.
- Lodoicea**, (A name of Commerson's, supposed to be in memory of Laodice, a Trojan lady, who first was made happy by Acamas; afterwards married Helicon, son of Antenor; next, Telephus, king of Mysia; and finally threw herself down from the top of a tower, and was killed, when Troy was sacked by the Greeks. Commerson named various plants after remarkable females; among others, the *Horténsia*, after his own mistress, who, in the disguise of a sailor, saved his life.) the double cocoa nut, its description and uses, 448.
- Lolium temulentum**, its poisonous qualities, and supposed mixture with malt, 211.
- Lombards**, *Manuel des propriétaires d'abeilles*, &c., 78.
- Loquat**, *Eriobotrya Japonica*, treatment of, 234.
- Lot's wife**, explanation of the allegory respecting, by Agronome, 305.
- Loudon's Encyclopédie des Gartenwesen**, 79.
- , *Landwirthschaft*, 79.
- Lowe**, Mr. Hugh, his description of a propagation shelf in the Clapton nursery, with the mode of using it, &c., 25.
- Lyne Grove**, near Chertsey, Surrey, notice respecting, 366.
- Machines**, list of those figured in Vol. II. of the *Gardener's Magazine*, viii.
- Maciura aurantiaca**, criticisms on the conductor's remarks on, 486.
- , male plant of, at New York, 350.
- MacMurtrie**, Mr., C.M.H.S., on a pit and stoves heated by fire and steam jointly, 419.
- Madras school**, suitableness of, for country villages, 25.
- Magnolia grandiflora**, mode of preserving from the frost, in Mr. Boursault's garden, 63.
- Magnolia Yulian** (conspicua Salisb.), notice of its introduction, 334; superb specimen in the Kensington Nursery figured and described, 370.
- Main**, Mr., observations on Chinese scenery, plants, and gardening, 135; note on winter pruning the vine, 413.
- Malmaison**, gardens of, 223.
- Manger's system of classing fruits**, 445.
- Mango**, account of two varieties ripened in the garden of the Earl of Powis, by Joseph Sabine, Esq., F.R.S., &c., 432.
- Mangosteen**, see *Garcinia*, 223.
- Mangold Wurzel**, remarkable field of, 231.
- Manuel du Jardinier**, &c., 78.
- Manure**, a cheap and efficacious mode of procuring, 233.
- Manuring**, by turning in green crops in bloom, 123.
- Marriage tree in Italy**, 226.
- Masey**, Mr. J. P., notice of a present to garden libraries from, 247.
- Matthews**, Mr. Andrew, A. L. S., description of the different varieties of *Parsonsia*, cultivated in the garden of the Horticultural Society of London, 190.
- Maund's Botanic Garden**, for December, 1826, reviewed, 73; for January and February, 1827, 207; for March and April, 336; for May and June, 443; (*advertised*), 128.
- M'Dougal**, his mode of destroying worms and slugs, 466.
- Mealy Bug**, *Coccus lanigera*, on vines and plants in pots, on the destruction of, by Mr. James Strachan, 166.
- Medals given by Horticultural Societies**, remarks as to the persons and subjects to and for which they are given, 237.
- Medical Botany**, &c., by John Stevenson and James Moss Churchill, Esq., Surgeon, reviewed, No. I. for January, p. 111.; No. II. for Feb., 327; for March, April, and June, 454.
- Meloncito de olor**, 95.
- Melon Compost**, on collecting, by W. R. Y., 404.
- Melon**, treatise on the, noticed, 74.
- , Winter, description of one of extraordinary dimensions, 229.
- Melons and cucumbers**, description of stoves for the growth of, by Mr. John Haythorn, C.M.H.S., 425.

- Melons, Persian, account of ten varieties, by Mr. John Landley, F.L.S., 433.
 Melons, plan for obtaining a second crop of, by Mr. Charles Harrison, F.H.S., 414; to propagate by cuttings, 414.
 Menteth, C. I. S., Esq., on lime-kilns, 389; his lime-kiln described and figured, 400.
 Mantor, on the Spanish hoe, 233; remarks by, on the mode of application for grafts, cuttings, &c. to the H.S., 106.
 Merino, Troupeaux de, &c., 78.
 Meteorological observations made in the garden of the Horticultural Society, during the year 1825, report upon, 204.
 Metropolitan garden and agricultural library, hint for establishing, 248.
Metrosideros lanceolata, on a garden wall at Edinburgh, 239.
Metrosideros Lophanta, hardy in France, 459.
 Metzger's cereal grasses of Europe, some account of, 343; Weinbau, 343.
 Mice and rats, notices of modes for destroying, 61.
 Mice, simple garden trap for, 278.
 Michie, Mr. James, on setting the blossoms of the more shy-bearing kinds of pears, 320.
 Mistletoe, its propagation by Mr. Keen, 366.
 Mitcheson, Mr. William, on the cultivation of the *Passiflora quadrangularis*, 203; on a mode of preparing strawberries for early forcing, 390.
 Mitchinson, Mr. James, on the culture of early potatoes in Cornwall, 174.
 Mixture and variety, principles of, explained, 310.
 Models of estates, by Mr. Crowe, notice of, 232.
 Modern style of laying out grounds in Russia, history of the first introduction of, by one of the imperial gardeners, 385.
 Moggridge, John H. Esq., remarks on his cottage system, as applied to Ireland, 240; an account of a successful experiment, made with a view to ameliorate the condition of country labourers, 19.
 Mons, Jean Baptiste Van, M.D., notes on grafting, budding, and cultivating garden roses, 191.
 Montgomery, Mr. Duncan, C.M.H.S., on the cultivation of an early and a late variety of the pear on the same tree, 199.
 Mont-Rouge Nursery, history of, 59.
 Morretti's Biblioteca Agraria, 344.
 Morris's Botanist's Manual, (*advertised*), 127.
 Morris, Richard, Esq., F.L.S., his elegant work on plants, 35; observations on water as regards ornamental scenery, 286.
 Morton, Mr. Andrew, on forcing strawberries, 393.
 Muir, Messrs. J. & A. of Greenock, their progress in the imitation of Leghorn bonnets, 239; on the growth and manufacture of straw plait for hats, 456.
 Mulberry leaves, substitute for, 346.
 Mulberry plantation at Slough, account of, 235.
 Munro, Mr. Donald, F.L.S., account of the cultivation of Chinese Chrysanthemums in the garden of the Horticultural Society, 187.
 Murray, John, Esq., F.A.S., L.S., H.S., G.S., &c., on the establishment of M. Fellenberg, at Hofroyl, 347.
 Murray, Mr. Stewart, C.M.H.S., on cultivating North American orchideous plants, 332.
 Mushroom, a large, 94; on the culture of, in hot-house sheds, by Mr. T. Forrest, C.M.H.S., 406.
 Mushrooms, cast-iron shelves for, 406; description of a mode of growing in a green-house in the neighbourhood of Vienna, by Mr. Napoleon Bauman, 407; force of vegetation in, 94; large crops of, 94; in arable land, 94; Mr. Haythorn's pit for, described and figured, 280; short directions for raising according to Oldaker's plan, 251.
 Musk Plant, *Aster argophyllus*, in the open ground, 378.
 Nagel's Vollständige Uebersicht, &c., 81.
 Nanny-Water, near Drogheda, some account of, 147.
 Nasturtium, small, 427.
 National Forests of Germany, 86.
 Natural system of plants, the study of by means of a Hortus Siccus, recommended, 221.
 Natural system, prevalence of papers on, in the Transactions of the Linnean Society, 470; opinion respecting in Van Dieman's Land, 470.
Nelumbium, idea of producing hybrids, with *Nymphaea* and *Niphar*, 429; on the cultivation of in Italy, by Joseph Clare, Esq., 428.
Nelumbium speciosum, on the culture of, by Mr. A. Stewart, F.H.S., 416.
 Nepaul Silver Fir described, 462.
 New South Wales, notice of its agriculture, 229.
 ———, cultivation of sugar in, 229.
 New Zealand flax, culture of in France, 63.
Nicotiana, now *Petunia nyctaginiflora*, 446.
 Niven, Mr. James, a distinguished botanical collector, notice of his life and death, 255.
 Noël, a French florist, notice of, 59.
 Nott, Mr. Wm., on forcing strawberries, 392.
 Noisette's Nursery, history of, 59.
 Nurseries of Paris, notices of, 59.
 Nurserymen of Paris, notices of the principal, 59.
 Nursery gardens, advantage of employing common labourers in, rather than professed gardeners, 271.
 Nuts, mode of keeping, by A. B. Lambert, Esq., F.R.S., Pres. L.S., &c., 431.
 Oak bark, Mimosa of New South Wales, as a substitute for, 277.
 Oak from the acorn, on raising plantations of, by Mr. Thomas Allen, F.H.S., 277.
 Oberlin, Jean-Frideric, a benevolent Protestant pastor, notice of his life, 85.
 Observations on the Corn Laws, by Sir Claude Scott, (*advertised*), 127.
Oenothera biennis, roots of, as Rampion, 457.
 ——— *cæspitosa* and *Galárdia bicolor*, cultivation of, 379.
 Oil as a manure in France, 84.
 Oldaker, Mr. Isaac, F.H.S., description of the Black Raisin Grape, &c., 174; list of gooseberries by, for a small garden, 253.
 Olive, its culture in the South of Europe, 455.
 Oliver, Mr. J., on the Wyken Pippin, 487; notice of the late Mr. John Whitlock, 487.
 Onions, some remarkable ones noticed, 241.
 Orange and Lemon trees, treatment of in Italy, by Mr. Shea, 430.
 Orchards in Argyle and Inverness, some account of, 32.
 Orchideous plants of N. America, method of cultivating by Mr. Stewart Murray, C.M.H.S., 332.
 ———, on the culture of, by A. X., 385.
 Outlines of Botany reviewed, 338.
Oxalis carnosa, 450.
 Oxen, working of, opinion on, 488.
 Packing seeds, query as to the best method, by a Constant Reader, 254.
Pæonia Moultan, on its varieties, by Jos. Sabine, Esq., F.R.S., &c. 423; remarks respecting their introduction from China, by J. M., 423; figure of the word *Moultan* in the Chinese character, 424; varieties enumerated, 424.
 Pæony, the tree, *see* *Pæonia Moultan*.
 Palace and gardens for the King, in the manner of those of Babylon, hints for, 372.
Panicum germanicum, its description and uses, by Mr. G. Sinclair, F.L.S., H.S., 224.
 Paragrées, Rapport sur l'Utilité des, 78.
 Park at Brussels, 87.
 Parkin, Mr. Thomas, cultivation of the cucumber at Thoresby Gardens, Nottinghamshire, 320.
 Parsnips, description of the different varieties cultivated in the garden of the Horticultural Society in London, by Mr. Andrew Mathews, A.L.S., 190.
Passiflora edulis, fruit of, ripened in a common green-house, 232.

- Passiflora quadrangularis*, on the cultivation of, by Mr. William Mitcheson, 203.
- Paupaille's *Discours sur les Applications de la Chimie à l'Agriculture, et à la Botanique*, character of, 77.
- Peaches and Apricots, budded on almond stocks, observations on Mr. Anderson's experiments with, by Hortulanus, 168.
- Peaches and Grapes, Mr. Haythorn's wooden structure for, described and figured, 281.
- Peaches, list of some American sorts, sent to the Garden of the Horticultural Society, 415.
- , on budding, on almond stocks, by Causidicus, 167.
- Peach trees, advantages of budding on almond stocks, 168.
- on green gage plum stocks, 169.
- , explanatory remarks on Mr. Seymour's mode of training, by Mr. John Seymour, 235.
- Pea, different early varieties in the Garden of Gunnersbury House, 363; early Spanish dwarf, 93; golden Hotspur, 93.
- Peas and beans, mode of transplanting in Flanders, 461.
- Peas, second crops of, 93, 94.
- Pear, a huge, in Dumfriesshire, 101.
- , Duchesse d'Angoulême, 94; John Monteith, 98; on the cultivation of an early and a late variety on the same tree, by Mr. Duncan Montgomery, C.M.H.S., 179; Stuyvesant's, from America, 415; Uvedale's St. Germain, an extraordinary one from Jersey, 241, 243; wild sort, uses of, in Russia, 89.
- Pears, account of some new ones, by John Braddick, Esq., F.H.S., 39; account of some new seedlings, by T. A. Knight, Esq. F.R.S. Pres. H.S., &c., 419; Belle Lucrative, and Beurrée Kirk, 42; Colmar and Crassane, a particular mode of training recommended, 262; French, observations on the management of the finer sorts, &c., by F. N. B., 257; Henri Quatre, Urbaniste, 39; list of new and superior sorts, which will succeed as standards about London, 253; list of select new ones, by John Braddick, Esq. F.H.S., 159; new French sorts, planted at Bristol, 463; note on the keeping qualities of different sorts, 41; setting the blossoms of the more shy-bearing kinds, by Mr. James Michie, 390.
- Pear tree, an extraordinary, 94.
- Peat Moss, natural and agricultural history of, reviewed, 214.
- , best sorts of trees for planting on, 214; review of Steele's History of, in the British Farmer's Magazine, 456.
- Peckra, the country-residence of the Prince M. P. Galitzin, near Moscow, 89.
- Pectic Acid, method of preparing, by Dr. A. T. Thomson, 677.
- Pennsylvania Agricultural Society, memoirs of, noticed, 344.
- Petersen, Mr. J. P., on the cultivation of Celery, 415.
- Petit's Nouveau Dictionnaire du Jardinage, &c., 78.
- Petunia*, now *Nicotiana*, 446.
- Phalangium esculentum*, as a substitute for bread, 102, 228.
- Pheasants, blackbirds, and thrushes, to feed in winter, 123.
- Phellandrium, its poisonous qualities, 454.
- Photinia glabra, a most desirable hardy evergreen shrub, 239.
- Picridium vulgare, as a salad lettuce, 437.
- Pike, Mr. William, on an improvement in the propagation of the Double Camellia, 33.
- Pine and fir tribe, directions for grafting, 64; plants raised from layers, 65.
- Pine pits, construction of, in Mr. Wilmot's Garden at Isleworth, 364.
- Pinus Laricio*, grafted on *Pinus sylvestris*, 63.
- Pinus*, new species of, in North America, discovered by Mr. Douglas, 238.
- *spectabilis*, described, 462.
- Pirolle's Jardinier Amateur, reviewed, 215.
- Pit and stoves, heated by fire and steam jointly, description of, by Mr. William Mac Murtrie, C.M.H.S., 419.
- Pit, flued, for growing cucumbers and melons, &c., by Mr. John Haythorn, C.M.H.S., 279; for winter and early spring forcing, description of, by Mr. A. Stewart, F.H.S., 414.
- Planting, great advantages of duly preparing the soil previously to, 75; in France, 87.
- Plants, anatomical preparations of, by Mr. F. Crowe, (advertised), 356; equivocal production of, 346; from China, suggestions for acclimating, 122; in pots, treatment of, 483; in the Garden of the Horticultural Society, report on the effect produced on, by the frost of April 29th, 1826, by Mr. John Lindley, F.L.S., 424; list of those figured in Vol. II. of the Gardener's Magazine, viii.; new or rare, which have flowered in the Garden of the Horticultural Society at Chiswick, from March 1824 to March 1825, report upon, by Mr. Lindley, F.L.S., 186; notice of improvements in printing the scientific names of, in the Gardener's Magazine, 488; number of, necessary to exemplify the natural system in a garden, 302; of New Holland, Mr. Sweet's proposal for a work on, 82; on the cultivation of, in moss, by Mr. John Street, C.M.H.S., 419; progress of the love of, 303; rare, added to the Garden of the Horticultural Society, from Colombia, by Mr. David Douglas, 442; rare, which have flowered in the neighbourhood of Paris 60; splendid and select sorts, which have flowered at Bury Hill, 297; that will grow in London, 484; worth possessing by every one who has a garden, list of, 370.
- Poiteau, A., and Vilmorin, *Le bon Jardinier* for 1826, by, reviewed, 58.
- Pollockshaws, Florist Club of, 465.
- Polyanthuses, new sorts of, made public, and for sale, 74.
- Pontier's *Connaissance des Terres en Agriculture*, noticed, 341.
- Portuguese Cabbage, or Coûve Tronchuda, query, 124; culture of, 434.
- Potato blossoms, advantage of pinching off, 94; early crop raised in Mr. Saul's manner, 464; raised near Penzance, by planting in December, 464; extraordinary increase of a single one, 232; golden, of Peru, 435; red golden, 435; asparagus potato, 436; mouse, 436; pine-apple or cone, 436; Spanish dwarf, 436; notice of a second crop of, planted in August, 48; on the field culture of, in Argyleshire, by W. M., 316; the early Foxley, Nelson, and Rufford kidney, 171.
- Potatoes, an early crop grown among rags, 232; artificial watering of, 102; second crop of, 94; early, on the culture of, in Cornwall, by Mr. James Mitchinson, 174; early, on the mode of growing them in the North of Lancashire, by Mr. Mathias Saul, 47; early, on the mode of cultivating, in Denbighshire, by a Denbighshire Gardener, 171; raising new sorts from seed, 124; remarks on the choice of, for seed, by a Denbighshire Gardener, 317; Scotch, superior flavour and dryness of, 107.
- Prevost's *Essai sur l'Education des arbres fruitiers*, &c., 78.
- Prévôt de Rivolta's *Nuovo Metodo di Agricoltura*, noticed, 81.
- Prince, Mr., C.M.H.S., account of his nursery at Flushing, near New York, 90; catalogue of fruit and ornamental trees, &c., notice of, 345.
- Propagation Shelf, description of, in the Clapton Nursery, with the mode of using it, &c., by Mr. Hugh Lowe, 25.
- Provincial Horticultural Society, query respecting, by C. F. W., 255.

- Prunus nigra*, recommended, 34.
Pumpkin, a large, 92.
Puvix's Essai sur la Marne, notice of, 342.
Pyrolignous Acid, directions for distilling, from coppice-wood, 251.
Pyrus spectabilis, recommended, 33.
Quassia amara, hint respecting, 422.
Quisqualis Indica, a handsome stove climber, described and figured, 186.
Rampion German, or tree primrose, 437.
Red Spider, a simple and effectual method of destroying it, by Mr. Alfred Kendall, 38.
Reider: Die rationelle Bienenwirthschaft, &c., 81.
Reed, Mr. James, on a cheap and efficacious manure, 233.
Reid, Mr. Robert, hints for cultivating *Fuchsia gracilis*, *Erythrina crista galli*, and *Salvia splendens*, with some remarks on flowering climbing plants in pots, 16.
Reim and Werner's Practische Bienenwirthschaft in allerley Gegenden, 81.
Rhubarb, mode of forcing, in the Horticultural Society's Garden, 356; of Commerce, the true species, 468; opinion on the species used for culinary purposes, 486.
Ribbe's Das Schaaf und die Wolle, &c., 81.
Rigault's Nouvelle méthode pour la culture de la Vigne dans le département de la Gironde, 77.
Robberds, J. W., jun., Geological and Historical Observations on the eastern valleys of Norfolk, reviewed, 211.
Robinson, Mr. John, F.H.S., on the importance of liquid manure, 18.
Rogers, Mr. J., notice of his Dendrometer, 13.
—, of Southampton, new pear, (advertised), 125.
Roman Cement, remarks on, 476.
Rose, Mr. W. B., on the best mode of growing such culinary vegetables as are raised annually from seed, 274.
Rose, R. H., Esq., on the farming of Susquehanna in Pennsylvania, 350.
Rose, numerous varieties of, in the Garden of the Luxembourg, 215.
Rose of Jericho, *Anastatica hierochuntica*, figured and described, 357.
—, Yellow, query respecting, 122.
Roses, a selection of, in six sections from M. Pirolle's Jardinier Amateur, 216; budding of, and manuring, query by C. Crabstock, 254; Double Scotch, Austin and M'Aslan's Catalogue of, noticed, 102; Garden, notes on grafting, budding, and cultivating, by Jean Baptiste Van Mons, F.M.H.S., 191; mode of budding and grafting, 192.
—, an improvement in the mode of grafting, 192.
Rural Expenditure, Essay on the beneficial direction of, by Robert Slaney, Esq., reviewed, 51. 177. 321.
Rutabaga, or Swedish Turnip, 84.
Rye Grass, best varieties of, 69.
Sabine, Joseph, Esq. F.R.S., &c., account of several new Chinese and Indian *Chrysanthemums*, 194; account of a method of forcing figs, 198; on *Glycine sinensis*, now *Wistaria Consequana*, 422; on the Mango, 432.
Saccharometer, query respecting, 122.
Saint Hilaire's Traité des Arbrisseaux et des Arbustes cultivés en France, &c., 78.
Salix Egyptiaca, in Persia, 462.
Salt, application of, for destroying weeds and worms, 306; application of, in Ireland, 234; as a hygrometer, 307; as a manure, &c., by Agronome, 163; as a manure, by Mr. G. W. Johnson, 1; as a manure, &c., by W. Collins, Esq., 160; reviewed, 212; as a manure in Ireland, 102; ash-trees destroyed by, 165; Bishop Watson's opinion on, 234; corrosive operations of, 306; antiputrescent qualities, 306; different opinions on its uses, viz. Bacon, Platt, Cook (gardener to the Earl of Essex), Sinclair, Hitt, Knight, Cartwright, Sir T. D. Acland, Andrews, Hogg, Cline, and Sir H. Davy, 1, 2, 3; essay on the uses of, &c. by Cuthbert William Johnson, reviewed, 339; extirpating thistles and other weeds by, 233; influence of, on vegetables, by Mr. G. W. Johnson, 430; in gardens, on the use and abuse of, by Agronome, 304; list of gardeners called on to make experiments with, 6; Lord Napier's patent for improving lands by, 234; plants which contain, 4, 5; some experiments with, by Alfred, 408.
Salvia splendens, *Fuchsia gracilis*, *Erythrina crista galli*, hints for cultivating, by Mr. Robert Reid, 16.
Samouelle's Entomologist's Compendium, (advertised), 384.
Sartorelli's Osservazioni sopra i mezzi di conservare i Boschi mediante la regolarità dei Tagli, &c., 344.
Saul, Mr. Mathias, on the mode of growing early potatoes in the north of Lancashire, 47.
Saunders, Mr. Richard, his account of a remarkable lemon tree in the garden of C. Hoare, Esq., at Luscombe, Devonshire, 29.
Savi Gaetano's Almanacco per i dilettanti di giardinaggio, &c., noticed, 82.
Sea-kale, its culture in Mr. Keen's garden, Isleworth, 365.
Seeds and fruits, remarks on the general principles of preserving, by a Denbighshire Gardener, 317.
Seeds, garden, the best method of packing, for exportation, 378; mode of germinating, before sowing, 62; garden, on saving, by gentlemen's gardeners, by an Old Gardener, 264; samples of horticultural and agricultural, exhibited at the Smithfield Cattle Show in December, 1826, 231.
Sensitivus, of Yorkshire, on the treatment which gardeners out of place generally receive from the nurserymen, &c., 36.
Seymour, Mr. John, explanatory remarks on his mode of training peach trees, 295.
Shepherd, Mr., of Sudbury, market gardener, life and death of, 381.
Shrubs, deserving a place in every shrubbery, 33; protection of their stems by hay bands, 276, 277; which bear the climate of Petersburg, list of, 388.
Silverlock, Mr., his hollow walls recommended, 203.
Sinclair, Mr. George, F.L.S., H.S., his experiments with salt, &c., 2; his Hortus Gramineus Woburnensis reviewed, 67; on *Panicum germanicum*, 224.
—, Sir John, biography of, in the British Farmer's Magazine, 456.
Slane Castle, on the Boyne, some account of, 149.
Slaney, Robert, Esq., Essay on the beneficial direction of Rural Expenditure, reviewed, 51. 177. 321.
Slate tallies for naming plants, by Suffolciensis, 273.
Slate troughs, instead of plant pots or cisterns for aquatics, notice of their invention and manufacture, 431.
Slater, Gilbert, Esq., remark respecting, 423.
Sloping hollow wall proposed to be erected by J. A. B., Esq., remarks on, by H. G., & W. H., 303.
Slugs and worms, destruction of, 466.
Smith, Mr. James, C.M.H.S., on the strawberries of Scotland, 425; on the cedars at Hopetoun House, 418; on the cultivation of *Fuchsias*, 426.
—, Mr. W., notices of vineries with arched hanging trellises, 427.
Smoke, its baneful influence on vegetation, 363.
Smut in wheat, some curious and interesting experiments on, 236.
Soap suds as a manure, query by Mr. E. M. Mather, 254.
Society of Domestic Economy at Utrecht, 88.

- Soils, influence of compression and expansion on, 406; influence of, on plants, 405; effect of in changing the colour of the flower of a hydrangea, 405.
- Solanum Quitense*, a splendid plant, described, 449.
- Soot, as an ingredient in liquid manure, 18.
- Sorbus*, culture of, with a view to spirituous liquors, 444.
- Soulange-Bodin, M. Le Chevalier de, F.H.S., *Discours sur l'Importance de l'Horticulture*, &c., 342; on the state and progress of horticulture in France, 223.
- Spade, Flemish, notice and figure of, 66.
- Spanish hoe, notice of, 106; described and figured, 233.
- Sparrows, new trap for, 120.
- Spartium nubigenum*, a very fine species in the Canaries, 462.
- Spinach, Flanders, 436; New Zealand, or *Tetragonia*, 436; Sea Beet and *Chenopodium Bonus Hénricus*, as a substitute for, 436.
- St. Cloud, gardens of, 223.
- Stained glass for conservatories, by Messrs Horwood and Oliver, (*advertised*), 356.
- Steam, mode of applying to the culture of the pine-apple at Gunnersbury, by Mr. W. J. Shennan, 362.
- Steele, Andrew, Esq., natural and agricultural history of peat moss, &c., reviewed, 214; review of, in the British Farmer's Magazine, 456.
- Stephenson, John, Esq., M.D., and James Morris Churchill, Esq., surgeon, *Medical Botany*, &c., reviewed, No. I., 211, 337, 454.
- Stewart, Mr. A., F.H.S., on a pit for early and spring forcing, 416; on the culture of *Nettionium speciosum*, 416.
- Stowe, Wm., Esq., on the good effects of protecting the stems of fruit trees, 275.
- Strachan, Mr. James, on the destruction of the mealy bug, *Coccus lanigera*, on vines and plants in pots, 166.
- Strawberries, early crop, and main-bearing crop, 252; mode of forcing the roseberry by Mr. G. Meredew, 429; Mr. Wilmot's mode of forcing, 364; best house for early forcing, 364; mode of watering on the top shelves, 364; in the open garden, 364; notices respecting those cultivated for the market in Scotland, by Mr. James Smith, C.M.H.S., 425; on a mode of preparing for early forcing, as practised at Courtlands, in Devonshire, by Mr. William Mitchinson, 390; on forcing, by Mr. Andrew Morton, 393; on forcing, by Mr. William Nott, 392; on the culture of, by Thomas Andrew Knight, Esq., 484; ripe fruit of, in the open air in January, 1827, 231; selection of for a small garden, 252; on improving the alpine, 252.
- Straw plait for hats, on the growth and manufacture of, 456.
- Street, Mr. John, C.M.H.S., on the cultivation of plants in moss, 419.
- Strong, Mr., his bed of tulips, 471.
- Structures, list of those figured in Vol. II. of the Gardener's Magazine, vii.
- Stuart, David, Esq., a distinguished horticulturist, 452; tribute of respect to, by Mr. Sweet, 452.
- Sturn's Kreuzungen and Veredelungen, &c., 80.
- Subterraneous irrigation of a vine border, 351.
- Succory, mode of raising and blanching in Flanders, 460.
- Summer of 1826, influence of its extraordinary drought, 92.
- Sutherland, Mr., an eminent landscape gardener, notice of his works, 149.
- Swedish turnip, 84.
- Sweet's *Flora Australasica*, No. I. for June 1827, reviewed, 336, *Geraniaceae* for December 1826, reviewed, 72; for January and February 1827, 206; for March and April, 335; for May and June, 452.
- Sweet's *Cistinée* for November, reviewed, 72, for January, 207, for March, 335, for May 453.
- British Flower Garden for December 1826, reviewed, 72; for January and February 1827, 206, 207; for March and April, 335; for May and June, 452.
- Sweet's *Hortus Britannicus*, Botanical Cultivator, *Cistinée* and *Geraniaceae*, (*advertised*), 127.
- Sweet, Robert, F.L.S., his *Hortus Britannicus*, reviewed, 207.
- Syon Gardens, notice of improvements in, 107.
- Tallipot tree, (*Corypha umbraculifera*), 96.
- Tamworth Florist Society, notice of its establishment and objects, 361.
- Tarpaulins, &c. exhibited at the Smithfield cattle show in December, 1826, 231.
- Taste, good or bad, always relative expressions, 303.
- Taurida Gardens, described, 387.
- Taylor, Mr. J., on the garden of the Prussian Gardening Society, 84.
- Temple, Sir Wm., interment of his heart, &c., 481.
- Tetragonia expansa*, 436.
- Thistle, scarlet Mexican, figured and described, 298.
- Thoburn and Son's catalogue of kitchen garden, herb, flower, tree, and grass seed, &c., notice of, 345.
- Thomson, Anthony Todd, M.D., on the growth of the foliage of bulbiferous plants, 283; on preparing the pectic acid, 477.
- Thongs of twisted leather, preparation of, in Poland and Russia, &c., 80.
- Thornton's Introduction to Botany, (*advertised*), 127.
- Ticket for naming plants, 66.
- Timber trees, comparative cultivation of, 84.
- Titford, W. I., M.D., his sketches towards a *Hortus Britannicus Americanus* noticed, 75; (*advertised*), 127.
- Tobacco for destroying insects, 121.
- Tobacco water, on its application in the destruction of insects, by Mr. Joseph Harrison, F.H.S., 428.
- Tobermory Gardens, Isle of Mull, 32.
- Tomalin's Artificial Manures, (*advertised*), 126.
- Touraine, the garden of France, 222.
- Townly Hall, near Drogheda, some account of, 148.
- Tozzetti's *Dizionario Botanico Italiano*, &c., notice of, 81.
- Tradescant, John, biography of, 487.
- Training trees, en quenouille, in the Netherlands, 226.
- Transactions of the Horticultural Society of London, Vol. VI., Part III., reviewed, 184; Part IV., 333; Part V., 339.
- Transactions of upwards of two hundred country horticultural societies noticed, 73.
- Transplantation of plants with spindle-shaped roots, on the, by T. A. Knight, Esq. F.R.S., Pres. H.S., &c., 199.
- Trap for catching winged insects in gardens, description of a new one, by Mr. John Wilson, 151.
- Tredgold, Mr., his excellent treatise on warming and ventilating, &c., 156, 200.
- Tree Pæony. See *Pæonia moutan*.
- Primrose, *Oenothera biennis*, as a rampion, 437.
- Trees and shrubs, on the importance of ascertaining the simultaneous flowering of, by W. T., 33.
- Trees for planting by public roads, &c. in Germany, 347.
- , hedges, &c., their management in the Netherlands, 226; in public walks in Flanders, 461; needle-leaved sorts, which do not stole, remarks on their propagation and future growth, 411; ornamental, deserving a place in every shrubbery, 34; pine and fir tribe, remarks on, 411; resinous, or coniferous, remarks on, 411; to remove in the summer time, 83.
- Trellises, hanging, for vines, notices of, by Mr. W. Smith, 427.

- Trench plant, 188.
 Trench, hints for the culture of, 488.
 Trench beds, query respecting the change which
 takes place in, 188.
 — beds, explanation of their formation,
 379; additional information as to their forma-
 tion, 488.
 — ones, description of, and its uses, by Mr.
 H. Green, 379.
 — manufactory of Mr. Goddard, F.R.S., 470.
 — shows about London, 470.
 Tulips, and other flowers, sale of, at Gilling
 Wicket, (advertised), 388; a novel mode of
 breaking, by Mr. Hogg, (advertised), 388;
 exhibition as to Mr. Hogg's secret for break-
 ing, 48; culture of, in the neighbourhood of
 Paris, 515; exhibition of, by Mr. Green, (ad-
 vertised), 388; list of, and directions for sowing,
 planting, &c., 379; ideas of
 breaking, by Mr. Thomas
 about, 578; new work on, by
 (advertised), 388; principles of
 380; some of the recent in
 cultivation, 48; 471.
 Turpin, on transplanting the, 488.
 Tyndal, Mr. Thos., information from, regard-
 ing the *Platanus grandifolia*, 388.
 Tuxton Cole Gardens described, 388.
 Utman, Henry, Quatre, and other new poems,
 by John Brindley, Esq., F.R.S., 38.
 Utman, list of those figured in Vol. II. of the
Gardener's Magazine, 488.
 Fallow-woods, *crucifera*, core said, 487.
 Van Dusen's Land, female society there, 388.
 Van Mene, his practice in sowing new sorts of
 fruits from seeds, 48.
 Variety and mixture, principles of, explained, 310.
 Variety, its object and principles, as explained
 by Uvedale Price, 311.
 Vegetables and fruits sold from the Garden
 of the Horticultural Society, regulations re-
 specting, 488.
 Vegetable Market of Edinburgh, 478; of Covent
 Garden, London, for December 1887, 388; for
 February 1887, 388; for April, 388; for June,
 478.
 Vegetables, Report on new or remarkable varia-
 tions in the Garden of the Hort. Soc., 488.
 Vegetables, some about Edinburgh, temperature
 of, 418; about Perth, 418; about London, 418.
 Vegetation, effects on, by heat and moisture, by
 Mr. A. Gorrie, C.M.I.A., 418; of North
 America, 387; round New York, 388.
 Vernal-sower, notice of, 48.
 Verhandlungen des Vereines, &c., Transactions
 of the Prussian Gardening Society, &c.,
 notice of, 379; reviewed, 488.
 Veron, returned by committee, in Holland, 348.
 Village Garden Society of Bath, 388.
 Village Librarian, 373; Rent Librarian, 378; letter
 on, by a Female Reader, 388.
 Vine, a practical essay on the culture of the,
 and a treatise on the culture, noticed, 78.
 Vine border, miscellaneous irrigation of, by Mr.
 Watson, 384.
 Vine, culture of, in Poland and Russia, 48; in
 Italy, manuring the, with the shoots pruned
 from it, 388; note on the winter pruning of,
 by Mr. James Main, 412.
 Vine in South Devon, 47; on the roots of
 cuttings, description of a mode of training and
 fastening the shoots, by Mr. John Latham, 48;
 plan for forcing in hives under glass, by the
 Rev. Bishop Cooper, A.M., 481; sporting in
 method of pruning, recommended, 78.
 Vineyard, with arched hanging trellis, notice
 of, by Mr. W. Smith, 487.
 Vineyard, on a new plan, in the Botanic Garden at
 Bath, 488.
 Wandering the Wicket, &c., Archibald, Esq., 78.
 Walsall's Agricultural Buildings, (advertised),
 388; reviewed, 388.
 Walls, hollow, of Mr. Silverthorn recommended,
 488.
 Waltons and Chestnuts, squired to Bath Lo-
 thian, 381.
 Walker's De so Rusten, 48.
 Warren, price of land and produce at, in
 March 1887, 388.
 Water, as regards ornamental country, obser-
 vations on, by Richard Harris, Esq., 488; land
 and good arrangement of, contemplated, 388-7;
 difference of, between stagnant and in a state
 of motion, with respect to plants, 488.
 Wax, method of extracting from wax-works, 477.
 Wedge draining in Scotland, 388.
 Weeds, which infant samples of, com-
 menced, 78.
 —, care, 71; pasture, 71.
 Weir's Agricultural Implements, (advertised),
 388.
 Weston, Esq., of Style House, his mode of bri-
 gading a vine border, 381.
 Wheat, different species and varieties of, in Eu-
 rope, 388; Dr. Foor's experiments on the same
 in, 388.
 Wheatbarrow border, notice of, 48.
 Wheeler, Mr. of Aplebury, a gentleman fond of
 horticultural pursuits, 48.
 Whitehaven, contemplated Forest and Hunt,
 &c. of, 388.
 Whitworth for walls and trees, query by Mr. 388.
 Williams, Mr., at Steven, Hydrangea introduced
 by, 48.
 Willink, Mr., British Envoy at the Court of
 Persia, his extensive horticultural avocations, 488.
 Willows will not grow in moss grounds, 488.
 Willmer's fruit garden, Lichworth, 388.
 Willms, Mr. John, description of a new trap for
 catching winged insects in gardens, 381.
 — Mr. William, on improving the ge-
 nius of cuttings, 471.
 Wilm, some more, query by R.S., 388.
 Winstanley, John, and Joseph Clegg, their ex-
 periment of the different flower shows held in
 Lancashire, Cheshire, Yorkshire, &c. in 1886,
 reviewed, 78.
 Winstanley's *Agricultural and Agricultural*
 —, noticed, 38.
 Winter cherry, query respecting, 188.
 Winter of 1886-7, notices of, 381.
 Winter's self-registering thermometer, &c., (ad-
 vertised), 388.
 Winters Conspiration, formerly, Glyster's dis-
 covery, 488.
 Withers, Wm. Jun., Esq., his Memoir, &c. on
 the planting and rearing of forest trees, re-
 viewed, 78.
 Withers and Dargham's, their *Lonicera*
 —, noticed, 48.
 Withers Hall, in its ancient state, figured and
 described, 48.
 Wooden Ketting for fruit trees, a cheap and
 recommended by Sir Ralph Vaughan, 488.
 Worms and Slugs, destruction of, 388.
 — In the beds, query by David Taylor, 488;
 — lamp made of do-
 — digital plant, 488.
 — notices of the
 Y, 188.
 Y, by Mr. F. Fel-
 388.

KALENDARIAL INDEX.

(INCLUDING ALSO VOL. I.)

"The articles included in this Index are limited to those in which a particular month is mentioned by the writers, as necessary or proper to commence the treatment or culture described. To have included all the articles treated of, would have extended this department to that of an ordinary gardener's kalendar, and could not have been of more use than the works of this kind already published. (See p. 488.)

January. — Force Figs, I. 169; prepare Figs for forcing, 198; sow culinary Vegetables in beds and pots for transplanting, I. 386; sow Peas in pots for transplanting, I. 164.

February. — Force Grapes under temporary structures, I. 168; form Cucumber beds with brick piers, I. 170; plant cuttings of Brugmansia, 146; prepare Potato sets for an early crop, 47, 171, 317; remove pots of Cyclamen to the stove, I. 386; sow Arachis Hypogaea, I. 66; sow Celery, 415; sow Bishop's Early Dwarf Pea under glass, I. 127.

March. — Plant cuttings of Figs, 35; transplant Peas, I. 164.

April. — Bud Roses in the French manner, 192; form beds of Cranberry and Water-cress, I. 151; sow different species of Cineraria, 153; sow the Teltow Turnip, I. 307; wrap hay-bands round the stems of fruit trees and tender shrubs, 276.

May. — Plant out Gourds (or New Zealand Spinach) between asparagus beds, I. 150.

June. — Sow the true Colza, I. 64; take up unripe early Potatoes for seed, and spread them on a gravel walk, in the manner recommended by a Denbighshire Gardener, 171.

July. — Elevate bunches of Grapes to promote their ripening, I. 169; prepare for planting Celery, 157; propagate Melons by cuttings, 414; set the fruit of the Granadilla, I. 15; turn out Cactus speciosus, and speciosissimus, I. 398; take up unripe Potatoes, &c., as in June.

August. — Bud Roses, 192; plant Ranunculuses in pots for forcing, I. 186; take up unripe Potatoes, &c., as in June.

September. — Prune Vines in the open air, I. 43, 211; take up unripe Potatoes, &c., as in June.

October. — Bury Bees in a peat-stack, cellar, or ice-house, I. 153; prepare Roses for forcing, I. 123; take up the roots of Tigridia pavonia, I. 306; plant Hyacinths, 411; take up unripe Potatoes, &c., as in June.

November. — Bury Apples for spring use, I. 269; plant Hyacinths in Mr. Campbell's manner, if not done in October, 411.

December. — Thin out the buds of Vines, when long shoots are laid in, 413; prepare horse-dung for Cucumber beds, I. 416; prepare sets of early Potato, I. 405; take up Rhubarb roots for forcing, I. 307; wrap old Newspapers round the shoots Fig-trees, I. 306.

CORRECTIONS.

Page 276, line 12. For "Wyker pippin," read "Wyken pippin."

334, at bottom. Obliterate what is said, on the authority of J. M., as to Yúlan being the Chinese name of the purple Magnolia; J. M. having, on farther examination, discovered that he was mistaken. Magnolia Yúlan may, therefore, be considered the preferable name for Magnolia conspicua; as we hope Wistéria Consequans will be considered for the Glycine sinensis of the gardens. (p. 422.)

341, line 14. For "80 bushels," read "20 bushels."

END OF THE SECOND VOLUME.

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ENGRAVINGS IN VOL. II.

No.	IMPLEMENTS.	Page	No.		Page
21.	Hoe-fork of Paris, - - -	65	85.	Improved field culture of the potato,	316
22.	Flemish spade, - - -	66	129.	Blasting granite rock, - - -	467
23.	French verge-cutter (coup-gazon), - - -	ib.		DIAGRAMS.	
24.	Barrow and ladder, - - -	ib.	32.	Growth of the tulip root, - - -	122
64.	Spanish hoe, - - -	233	100.	Ventilation of hot-houses, - - -	369
66.	Finlayson's harrow and grubber, - - -	250	102.	Embryo flower of the tulip, - - -	380
	INSTRUMENTS.		125.	The word <i>moutan</i> in the Chinese character, - - -	424
27.	Naming ticket, - - -	66		INSECTS.	
	MACHINES.		87, 88.	<i>Bostrichus piniperdus</i> - - -	355
3, 4, 5, & 6.	Gorrie's dendrometer, - 9, 10, 12			PLANTS.	
90.	Steam apparatus at Gunherbury House, - - -	363	13.	<i>Pyrus spectabilis</i> , <i>Cercis siliquastrum</i> and <i>canadensis</i> , <i>Prunus nigra</i> , <i>Halæsis tetraptera</i> , - - -	34
94, 95.	Watering barrow for strawberries, - - -	364	30.	<i>Lytta a geminiflora</i> - - -	96
	UTENSILS.		38.	<i>Iris cristata</i> , <i>Zigadenus glaberrimus</i> , <i>Medeola virginica</i> , <i>Epigæa repens</i> , <i>Pyröla maculata</i> , <i>Silene regia</i> , <i>Saracenia purpurea</i> , <i>Pothos foetida</i> - - -	131
25.	Training basket, - - -	66	34.	<i>Verbena stricta</i> , <i>Habenaria ciliaria</i> , <i>Cypripedium pubescens</i> , - - -	132
26.	Flower-pot, with curved bottom, - - -	ib.	35.	<i>Botrychium virginicum</i> , <i>Osmunda interrupta</i> , <i>Pteris atropurpurea</i> - - -	134
92.	Tin case for watering pots over head, - - -	364	39.	<i>Cymbidium sinense</i> Lind. (<i>Epidendrum fuscatum</i> , L.) - - -	139
	STRUCTURES.		44.	<i>Brugmansia arborea</i> , - - -	146
1, 2.	Improved garden wall, - - -	7, 8	48.	<i>Cineraria cruenta</i> , - - -	153
7, 8, 9.	Circular structure of wire, for climbing plants in pots - - -	17, 18.	49.	<i>Cineraria hybrida</i> , <i>gelfolia</i> , and <i>amelloides</i> , - - -	154
10.	Propagation house in the Clapton Nursery, - - -	95	51.	<i>Quisqualis indica</i> , - - -	186
60, 61.	Atkinson's melon pit, - - -	202, 203	52.	<i>Calceolaria corymbosa</i> , - - -	187
66.	Book-case for a garden library, - - -	247	53.	<i>Talinum ciliatum</i> , - - -	188
74.	Haythorn's pits for cucumbers, melons, and mushrooms, - - -	280	54.	<i>Oenothera speciosa</i> , - - -	189
75.	Haythorn's structure for peaches and vines in a small garden, - - -	281	55.	<i>Draccephalum notans</i> - - -	ib.
83, 84.	Tulip case of Mr. Groom, - - -	307, 308	62.	German millet, - - -	224
91.	Forcing-house for strawberries, - - -	364	68.	Doub grass, <i>Cynodon dactylon</i> , Rich. - - -	222
93.	Improved pine-pit, - - -	ib.	81.	<i>Combrætum purpureum</i> , <i>Thunbergia alata</i> , <i>Lechenaultia formosa</i> , <i>Lupinus mutabilis</i> , <i>Nuttallia digitata</i> , - - -	297
105, 106.	Cast-iron bridges in Taurida Gardens, - - -	390	82.	<i>Penstemon digitatus</i> , and <i>Oenothera speciosa</i> , - - -	298
116.	Green-house, combining a mushroom house, - - -	407	86.	<i>Aracantha</i> , - - -	355
120.	Stewart's cold-pit, - - -	417	89.	Rose of Jericho, <i>Anastatica microchintica</i> , - - -	357
121.	Anderson's protecting cover for culinary vegetables, - - -	ib.	101.	<i>Magnolia gulan</i> (conspicua), - - -	370
123.	Cooper's glass-case and vine border, - - -	421	117.	<i>Cunninghamia lanceolata</i> , - - -	410
127.	Vinery, with hanging trellis, - - -	428	118.	<i>Arascaria imbricata</i> , - - -	ib.
128, 129.	Blocks of stone, &c. for temporary forcing-houses, - - -	431	122.	<i>Hedychium elatum</i> , <i>coronarium</i> , and <i>flavum</i> , - - -	420
131.	Frame for the protection of plants during winter, - - -	433	124.	<i>Wistaria Consequana</i> , - - -	422
	EDIFICES.		126.	<i>Fuchsia gracilis</i> , <i>tenella</i> , <i>arborescens</i> , and <i>excorticata</i> , - - -	426
50.	Conservatory at the Grange, - - -	170		FRUITS.	
103.	Palace of Tzaraco Celo, - - -	387	11.	Lemon grown in the open air, - - -	30
107, 108.	Booker's limekiln, - - -	399	14, 15.	Pears, Henri Quatre, and the Urbaniste, - - -	40
109, 10, 11, 12, 13, & 14.	Menteath's limekiln, - - -	402, 403	29.	Club-shaped gourd, - - -	93
115.	Heathorn's limekiln, - - -	402	63.	<i>Passiflora edulis</i> , - - -	232
	OPERATIONS.			PLANS OF GARDENS AND PARKS.	
12.	Grafting the more choice camellias, - - -	33	96, 97.	Laying out approaches and walks, - - -	366, 367.
16, 17.	Training vines on cottage roofs, - - -	43, 44	98, 99.	Laying out water in garden scenery, - - -	367, 368.
18.	Protecting the trunks and roots of half hardy trees, - - -	63	104.	Imperial Gardens of Taurida, - - -	389
19, 20.	Grafting the pine and fir tribe, - - -	64, 65		LANDSCAPES.	
40, 41, 42, 43.	Kendall's mode of training the peach, - - -	142, 143, 144	28.	Villa of Prince Galitzin, near Moscow, - - -	89
45, 46, 47.	Catching winged insects in gardens, - - -	152	36, 37, 38.	Chinese artificial scenery, - - -	136, 137, 138.
56, 57, 58.	Budding and grafting the rose, - - -	192, 193	76, 77, 78.	A lake, a river, and a cascade - - -	287, 288, 289.
59.	Atkinson's mode of ventilating hot-houses, - - -	201	130.	Wollaton Hall and Gardens, as they appeared in the time of King William, - - -	481
67.	Distillation of Pyrolignous acid, - - -	251			
69, 70, 71.	Improved mode of training shy-bearing pears, - - -	261, 262			
72.	Raising oaks from the acorn on thin soil, - - -	277			
73.	Catching mice in gardens or fields, - - -	278			
79, 80.	Seymour's mode of training the peach tree, - - -	296, 296			

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